Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	)	CC Docket No. 01-338
	)	
Implementation of the Local Competition Provisions of the Telecommunications Act of 1996	)	CC Docket No. 96-98
	)	
Deployment of Wireline Services Offering Advanced Telecommunications Capability	)	CC Docket No. 98-147

REPORT AND ORDER AND ORDER ON REMAND AND FURTHER NOTICE OF PROPOSED RULEMAKING

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By the Commission: Chairman Powell and Commissioner Abernathy approving in part, dissenting in part and issuing separate statements; Commissioners Copps and Adelstein approving in part, concurring in part, dissenting in part and issuing separate statements; Commissioner Martin issuing a separate statement.

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I. INTRODUCTION

1. Seven years ago, Congress enacted the Telecommunications Act of 1996 (1996 Act) for the benefit of the American consumer.[1] This watershed legislation was partially designed to remove the decades-old system of legal monopoly in the local exchange and open that market to competition. The 1996 Act did so by establishing broad interconnection, resale and network access requirements, designed to facilitate multiple modes of entry into the market by intermodal and intramodal service providers. The 1996 Act also sought to reduce the need for regulation in the presence of competition and provide for universal service mechanisms in order to foster the deployment of advanced telecommunications capabilities to all Americans.

2. This Commission and our colleagues in state commissions around the country have devoted enormous amounts of time and resources to implement the Act's market-opening requirements, and the industry has devoted equally large amounts of time and resources to take advantage of the new business opportunities made available by the 1996 Act. Few, if any, other

[1] Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56. The 1996 Act amended the Communications Act of 1934, 47 U.S.C. § 151 *et seq.* We refer to these Acts collectively as the "Communications Act" or the "Act."

requirements of the 1996 Act have attracted so much regulatory attention, industry effort, or litigation, however, as the requirement under section 251(c)(3) that incumbent local exchange carriers (incumbent LECs) make elements of their networks available on an unbundled basis to new entrants at cost-based rates. Every aspect and application of this extraordinary vehicle for opening local exchange markets has been the focus of extensive debate and litigation. Indeed, this Commission has been told twice, once by the Supreme Court and once by the D.C. Circuit, that it had failed to implement unbundling in a reasonable manner because it did not adopt appropriate principles for limiting its application.

3. Direction from the courts, our own experience, and the experience of the telecommunications industry over the last seven years have caused us to reevaluate the Commission's approach to these obligations in light of the Act's goals of opening local exchange markets to competition, fostering the deployment of advanced services, and reducing regulation. Although we recognize that Congress intended to create a competitive landscape through resale, interconnection and facilities-based provision, and a combination of these modes of entry, in practice, we have come to recognize more clearly the difficulties and limitations inherent in competition based on the shared use of infrastructure through network unbundling. While unbundling can serve to bring competition to markets faster than it might otherwise develop, we are very aware that excessive network unbundling requirements tend to undermine the incentives of both incumbent LECs and new entrants to invest in new facilities and deploy new technology. The effect of unbundling on investment incentives is particularly critical in the area of broadband deployment, since incumbent LECs are unlikely to make the enormous investment required if their competitors can share in the benefits of these facilities without participating in the risk inherent in such large scale capital investment. At the same time, continued unbundling for the network elements provided over current facilities appears to be necessary in many areas under section 251 of the Act, especially with respect to mass market customers.

4. This Order takes a balanced approach to these issues. We eliminate most unbundling requirements for broadband, making it easier for companies to invest in new equipment and deploy the high-speed services that consumers desire. We have also made new decisions concerning the unbundling of other network elements that result in substantial changes to existing requirements, including a more granular analysis of unbundling requirements by the states when appropriate.

5. This Order thus achieves three primary goals. First, this Order continues the Commission's implementation and enforcement of the Act's market-opening requirements by applying the experience we have gained implementing the Act. Second, it applies unbundling as Congress intended: with a recognition of the market barriers faced by new entrants as well as the societal costs of unbundling. In doing so, this Order resolves numerous questions about unbundling left open by years of litigation and industry conflicts, and opens a new chapter in the history of the Act's unbundling requirements. Third, this Order establishes a regulatory foundation that seeks to ensure that investment in telecommunications infrastructure will

generate substantial, long-term benefits for all consumers.[2] The framework set forth in this Order recognizes that this competition is taking place on an intermodal basis – between wireline providers and providers of services on other platforms such as cable and wireless – and on an intramodal basis among wireline providers with different business and operational plans.

6. The path to the rules and policies we set forth in this Order has been neither straight nor easy. Legal challenges, a depressed telecommunications sector, and technical and operational obstacles have been features of the competitive landscape to a far greater extent than could have been reasonably predicted in 1996. On the other hand, the increasing presence of cable and wireless-based telephony services as well as the advent of broadband services and other new telecommunications and information services has already worked changes in the industry to a far greater extent than could have been reasonably predicted in 1996. In the past, we have stated that "the 1996 Act set the stage for a new competitive paradigm in which carriers in previously segregated markets are able to compete in a dynamic and integrated telecommunications market that promises lower prices and more innovative services to consumers."[3] We believe that the rules and policies we adopt today allow us to continue to strive for that goal and are carefully tailored to reflect today's environment, striking an appropriate balance between increasing infrastructure investment and innovation, and fostering sustainable competition from both intermodal and intramodal service providers in the local telecommunications markets. Accordingly, we believe that the certainty that we bring today will help stabilize the telecommunications industry, yield renewed investment in telecommunications networks, and increase sustainable competition in all telecommunications markets for the benefit of American consumers.

II. EXECUTIVE SUMMARY

7. The executive summary is as follows:

- **Principles of Unbundling.** The standards for unbundling are based on principles drawn from the Supreme Court and D.C. Circuit opinions concerning the impairment standard; guidance provided by the language, structure, purposes and history of the 1996 Act; and lessons from the economic and legal literature on topics potentially related to the ambiguous impair standard.

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[2] The 1996 Act was announced as "[a]n Act [t]o promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies." Preamble, Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996) (Preamble to the 1996 Act).

[3] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 FCC Rcd 3696, 3699, para. 2 (1999) (*UNE Remand Order*), *reversed and remanded in part sub. nom. United States Telecom Ass'n v. FCC*, 290 F.3d 415 (D.C. Cir. 2002) (*USTA*), *cert. denied sub nom. WorldCom, Inc. v. United States Telecom Ass'n*, 123 S.Ct 1571 (2003 Mem.) (*cert. denied* after adoption of this Order, but before release).

- **Network Element.** The Order reaffirms our previous interpretation of the statutory definition of the term "network element," set forth in section 153(29) of the Act, as requiring incumbent LECs to make available to requesting carriers network elements that are capable of being used in the provision of a telecommunications service. We specifically decline to limit the definition of a "network element" to facilities and equipment actually used in the provision of a telecommunications service.

- **Impair Standard.** A requesting carrier is impaired when lack of access to an incumbent LEC network element poses a barrier or barriers to entry, including operational and economic barriers, that are likely to make entry into a market uneconomic. Thus, we interpret the "impair" standard as less demanding than the "necessary" standard. At the same time, we interpret the "impair" standard as requiring us to make specific, affirmative findings that elements should or should not be unbundled.

  - Types of Barriers to Entry. The Order describes the barriers that we consider relevant to the impairment analysis and examines whether unbundling can address the impairment caused by these barriers. In our application of the impairment standard to individual elements, we ask whether the sum of these barriers is likely to make entry uneconomic, taking into account any countervailing advantages that a requesting carrier may have. We specifically find that we should consider the following barriers to entry in determining whether impairment exists. We will examine the disparities caused by all the factors discussed here to determine whether, as a whole, they are likely to make entry into a market uneconomic.

    - Scale Economies. Scale economies, particularly when combined with sunk costs and first-mover advantages, can pose a powerful barrier to entry. The greater the extent and size of the scale economies throughout the range of potential demand, the higher the barrier they pose. Scale economies that pertain just to the beginning stages of entry, however, might not be an appropriate factor in an unbundling analysis.

    - Sunk Costs. Sunk costs, particularly when combined with scale economies, can pose a formidable barrier to entry. Sunk costs increase a new entrant's cost of failure. Potential new entrants may also fear that an incumbent LEC that has incurred substantial sunk costs will drop prices to protect its investment in the face of new entry. In addition, sunk costs can give significant first-mover advantages to the incumbent LEC, which has incurred these costs over many years and has already had the opportunity to recoup many of these costs through its rates.

    - First-Mover Advantages. First-mover advantages often create an absolute cost disadvantage for new entrants, which if large enough, can be a barrier to entry. First-mover advantages can also contribute to the effects of economies of scale and high sunk costs.

- Absolute Cost Advantages. Absolute cost advantages, if of sufficient size, can deter entry or make it impossible for entrants to provide service in an economic fashion.

- Barriers Within the Control of the Incumbent LEC. We also consider barriers to entry that are solely or primarily within the control of the incumbent LEC since eliminating them or mitigating their effects is within the control of the incumbent LEC.

- Evidence of Impairment. Actual marketplace evidence is the most persuasive and useful evidence. In particular, we are interested in evidence concerning whether new entrants are providing retail services in the relevant market using non-incumbent LEC facilities. We also give weight to the deployment of intermodal technologies. In addition, we will give consideration to cost studies and modeling. We reaffirm our prior conclusion in the *UNE Remand Order* to afford little weight in determining whether impairment exists to evidence that requesting carriers are using incumbent LEC tariffed services to provide competing retail services.

- Granularity of Impairment Analysis. We perform a granular analysis of impairment by taking into account considerations related to customer classes, geography, and services. In discussing specific network elements, we also consider the types and capacity of the facilities involved.

- Implicit Support Flows. We explain how our impairment standard addresses the existence of implicit support flows in a manner that is responsive to the concerns raised by the D.C. Circuit's *USTA* decision. At the same time, we conclude that the statute is best interpreted as giving the Commission broad discretion concerning consideration of implicit support flows in the impairment analysis.

- **The "Necessary" Standard.** We retain the interpretation of the "necessary" standard set forth in the *UNE Remand Order*.

- **"At a Minimum."** Although we have not required the unbundling of any network elements in this Order in the absence of impairment, we find that this provision permits us to consider, when appropriate, "other" factors closely tied to the purposes of the statute in reaching an unbundling determination. In this Order, however, we use this authority sparingly to inform our consideration of unbundling when some level of impairment may exist, but unbundling appears likely to undermine important goals of the 1996 Act such as the deployment of advanced telecommunications capabilities.

- **Role of the States.** The record before us and the D.C. Circuit's emphasis in *USTA* on granularity in making unbundling determinations both lead us to conclude that asking the states to take on some fact finding responsibilities would be the most reasonable way to implement the statutory goals for certain network elements. We find that giving the state this role is most appropriate where, in our judgment, the record before us does not contain sufficiently granular information and the states are better positioned than we are to gather and assess the necessary information.

Unbundling Requirements for Individual Network Elements

- **Mass Market Loops.** Incumbent LECs must offer unbundled access to stand-alone copper loops and subloops for the provision of narrowband and broadband services. Subject to a grandfather provision and a transition period, incumbent LECs do not have to provide unbundled access to the high frequency portion of their loops. Incumbent LECs must offer unbundled access to the Time Division Multiplexing (TDM) features, functions, and capabilities of their hybrid copper/fiber loops. Similarly, only in fiber loop overbuild situations where the incumbent LEC elects to retire existing copper loops must the incumbent LEC offer unbundled access to those fiber loops for narrowband service only. Incumbent LECs do not have to offer unbundled access to newly deployed or "greenfield" fiber loops or to the packet-switching features, functions, and capabilities of their hybrid loops.

- **Enterprise Market Loops.** Incumbent LECs are no longer required to unbundle OCn loops. Incumbent LECs must offer unbundled access to dark fiber loops, DS3 loops (limited to 2 loops per requesting carrier per customer location) and DS1 loops except at specified customer locations where states have found no impairment pursuant to Commission-delegated authority to conduct a more granular review based on Commission-defined triggers measuring the availability or feasibility of alternatives to incumbent LEC unbundled loops at such customer location.

- **Subloops.** Incumbent LECs must offer unbundled access to subloops necessary to access wiring at or near a multiunit customer premises, including the Inside Wire Subloop, *i.e.*, all incumbent LEC loop plant between the minimum point of entry (MPOE) at a multiunit premises and the point of demarcation, regardless of the capacity level or type of loop the requesting carrier will provision to its customer. Unbundled access must be provided at any technically feasible accessible terminal at or near the multiunit premises, including but not limited to, a pole or pedestal, a network interface device (NID), the MPOE, the single point of interconnection (SPOI) or a feeder distribution interface. A requesting carrier accessing a subloop on the incumbent LEC's network side of the NID obtains the NID functionality as part of that subloop. Upon notification by a requesting carrier that interconnection is required through SPOI, an incumbent LEC is required to provide a SPOI at multiunit premises where the incumbent LEC owns, controls or leases the wiring at such premises.

- **Network Interface Devices (NID).** Incumbent LECs must offer unbundled access to the NID on a stand alone basis to requesting carriers. The NID is defined as any means of interconnecting the incumbent LEC's loop distribution plant to wiring at a customer premises location. An incumbent LEC shall permit a requesting carrier to connect its loop facilities through the incumbent LEC's NID.

- **Dedicated Transport.** We redefine the dedicated transport network element as those transmission facilities that connect incumbent LEC switches or wire centers. The Commission conducted its impairment analysis of dedicated transport by capacity level. Specifically, we find that requesting carriers are not impaired without access to

unbundled OCn level transport. Further, we find that requesting carriers are impaired without access to dark fiber, DS3, and DS1 transport, each independently subject to a granular route-specific review by the states to identify available wholesale facilities. Dark fiber and DS3 transport also each subject to a granular route-specific review by the states to identify where transport facilities can be deployed.

- **Switching for Enterprise Market (defined as DS1 and above).** We find, on a national basis, that competitive LECs are not impaired without unbundled local circuit switching when serving the enterprise market. We recognize that a more geographically specific record may reveal such impairment in particular markets and thus allow states to rebut this national finding based on certain operational and economic criteria.

- **Switching for Mass Market (defined as DS0).** We find, on a national basis, that competing carriers are impaired without unbundled local circuit switching when serving the mass market due to operational and economic barriers associated with the incumbent LEC hot cut process. We require state commissions to approve an incumbent LEC batch hot cut process, or make a detailed finding that such a process is not necessary. We recognize that a more geographically specific record may identify particular markets where there is no impairment and thus ask states to apply Commission-defined triggers measuring existing switch deployment serving this market and, if necessary, consider operational and economic barriers to switch deployment to serve this market. If states conclude that there is impairment in a particular market, they must consider whether the impairment can be cured by requiring unbundled switching on a rolling basis, rather than making unbundled switching available for an indefinite period of time.

- **Shared Transport.** We find that carriers are impaired without shared transport only to the extent that carriers are impaired without access to unbundled switching.

- **Packet Switching.** Incumbent LECs are not required to unbundle packet switching, including routers and Digital Subscriber Line Access Multiplexers (DSLAMs), as a stand-alone network element. The Order eliminates the current limited requirement for unbundling of packet switching.

- **Signaling Networks.** Incumbent LECs are only required to offer unbundled access to their signaling network when a carrier is purchasing unbundled switching. The signaling network element, when available, includes, but is not limited to, signaling links and signaling transfer points (STPs).

- **Call-Related Databases.** When a requesting carrier purchases unbundled access to the incumbent LEC's switching, the incumbent LEC must also offer unbundled access to their call-related databases and, if the incumbent LEC does not provide customized routing, to operator service and directory assistance (OS/DA) services. When a carrier utilizes its own switches, with the exception of 911 and E911 databases, incumbent LECs are not required to offer unbundled access to call-related databases, including,

but not limited to, the Line Information database (LIDB), Toll Free Calling database, Number Portability database, Calling Name (CNAM) database, Operator Services/Directory Assistance databases, and the Advanced Intelligent Network (AIN) database.

- **OSS Functions.** Incumbent LECs must offer unbundled access to their operations support systems (OSS) for qualifying services. OSS consists of pre-ordering, ordering, provisioning, maintenance and repair, and billing functions supported by an incumbent LEC's databases and information. The OSS element also includes access to all loop qualification information contained in any of the incumbent LEC's databases or other records.

Unbundling Requirements for Individual Network Elements

- **Combinations of Network Elements.** Competitive LECs may order new combinations of unbundled network elements (UNEs), including the loop-transport combination (enhanced extended link, or EEL), to the extent that the requested network elements are unbundled. A competitive LEC may convert special access services to a UNE or UNE combination. All requests for newly-provisioned EELs and for conversions of special access circuits to EELs are subject to the service eligibility criteria. Competitive LECs are permitted to commingle UNEs and UNE combinations with other wholesale services, such as tariffed interstate special access services. Incumbent LECs are not required to provide "ratcheting," which is a pricing mechanism that involves billing a single circuit at multiple rates and would result in providing discounted UNEs.

- **Service Eligibility.** We conclude that where a requesting carrier satisfies the following three categories of criteria, it is a bona fide provider of qualifying services and thus is entitled to order high-capacity EELs. First, we find that each requesting carrier must have a state certification of authority to provide local voice service. Second, to demonstrate that it actually provides a local voice service to the customer over every DS1 circuit, we find that the requesting carrier must have at least one local number assigned to each circuit and must provide 911 or E911 capability to each circuit. Third, we find that requesting carriers must certify to meeting the following additional circuit-specific architectural safeguards to qualify for the high-capacity circuit:

    - each circuit must terminate into a collocation governed by section 251(c)(6) at an incumbent LEC central office within the same LATA as the customer premises;

    - each circuit must be served by an interconnection trunk in the same LATA as the customer premises served by the EEL for the meaningful exchange of local traffic;

    - for every 24 DS1 EELs or the equivalent, the requesting carrier must maintain at least one active DS1 local service interconnection trunk; and

- each circuit must be served by a Class 5 switch or other switch capable of providing local voice traffic.

- **Certification and Auditing.** A requesting carrier must certify in writing that it satisfies the qualifying service eligibility criteria for each high-capacity EEL circuit. As part of their limited right to audit compliance with these criteria, incumbent LECs may obtain and pay for an independent auditor to audit, on an annual basis, compliance with them.

- **Modification of Existing Network.** Incumbent LECs are required to make routine network modifications to UNEs used by requesting carriers where the requested facility has already been constructed. These routine modifications include deploying multiplexers to existing loop facilities and undertaking the other activities that incumbent LECs make for their own retail customers. We also require incumbent LECs to condition loops for the provision of digital subscriber line (xDSL) services. We do not require incumbent LECs to trench new cable or otherwise to construct transmission facilities so that requesting carriers can access them as UNEs at cost-based rates, but we clarify that the incumbent LEC's unbundling obligation includes all transmission facilities deployed in its network.

Remaining Issues

- **Section 271 Issues.** The requirements of section 271(c)(2)(B) establish an independent obligation for BOCs to provide access to loops, switching, transport, and signaling**,** under checklist items 4-6 and 10, regardless of any unbundling analysis under section 251. Where a checklist item is no longer subject to section 251 unbundling, section 252(d)(1) does not operate as the pricing standard. Rather, the pricing of such items is governed by the "just and reasonable" standard established under sections 201 and 202.

- **Clarification of TELRIC Rules.** The order clarifies two key components of its TELRIC pricing rules to ensure that UNE prices send appropriate economic signals to incumbent LECs and competitive LECs. First, the order clarifies that the risk-adjusted cost of capital used in calculating UNE prices should reflect the risks associated with a competitive market. The order also reiterates the Commission's finding from the *Local Competition Order* that the cost of capital may be different for different UNEs. Second, the Order declines to mandate the use of any particular set of asset lives for depreciation, but clarifies that the use of an accelerated depreciation mechanism may present a more accurate method of calculating economic depreciation. In addition to these clarifications, the Order notes that the Commission plans to open a proceeding to consider issues related to its TELRIC pricing rules.

- **Fresh Look.** The Commission will retain the determination made in the *UNE Remand Order* that it will not permit competitive LECs to avoid any liability under contractual early termination clauses in the event that it converts a special access circuit to a UNE. Although "fresh look" has occurred in the past, this rare exercise of Commission discretion is not appropriate here because it would be unfair to both incumbent LECs

and other competitors, disruptive to the market place, and ultimately inconsistent with the public interest.

- **Transition Period.** The Commission will not intervene in the contract modification process to establish a specific transition period for each of the rules established in this Order. Instead, as contemplated in the Act, individual carriers will have the opportunity to negotiate specific terms and conditions necessary to translate our rules into the commercial environment, and to resolve disputes over any new contract language arising from differing interpretations of our rules. Except where noted, the Commission will not establish specific transition periods for each of the rules established in this Order but will, instead, rely on the timing of the contract modification process. As contemplated in the Act, individual carriers will have the opportunity to negotiate specific terms and conditions necessary to translate the rules into the commercial environment, and to resolve disputes over any new contract language arising from differing interpretations of our rules.

- **Periodic Review of National Unbundling Rules.** The Commission will evaluate these rules consistent with the biennial review mechanism established in section 11 of the Act. These reviews, however, will not be performed *de novo* but according to the standards of the biennial review process.

- **Duty To Negotiate in Good Faith.** We amend our duty-to-negotiate rule, section 51.301(c)(8)(ii), to make the rule conform to the text of the *Local Competition Order*.

- **Further Notice of Proposed Rulemaking.** We open a further notice of proposed rulemaking to seek comment on whether we should modify the Commission's interpretation of section 252(i). The Commission's so-called pick-and-choose rule permits requesting carriers to opt into individual portions of interconnection agreements without accepting all the terms and conditions of such agreements. We tentatively conclude that a modified approach would better serve the goals embodied in section 252(i), and sections 251-252 generally, by promoting more meaningful commercial negotiations between incumbent LECs and competitive LECs. Specifically, we tentatively conclude that if an incumbent LEC obtains state approval of a statement of generally available terms and conditions (SGAT) pursuant to section 252(f), the incumbent LEC and competitive LECs could negotiate customized agreements that third parties could opt into entirely or not at all. Finally, unless and until an SGAT is approved in a particular state, the existing pick-and-choose rule would remain in effect in that state.

III. BACKGROUND AND LEGAL HISTORY

8. This Order represents, in large part, a fresh examination of the issues presented in implementing the unbundling requirements of section 251 of the Act. Our consideration of these issues, however, takes place within the context of prior Commission orders and judicial decisions examining those orders. An understanding of the Commission's prior efforts to

address these issues as well as the relevant court guidance is critical to ensuring a successful consideration of these issues in this Order.

9. *Statutory Requirements*. The Communications Act requires that incumbent LECs provide UNEs to other telecommunications carriers.[4] In particular, section 251(c)(3) of the Act states that incumbent LECs have a duty to

> provide, to any requesting telecommunications carrier for the provision of a telecommunications service, nondiscriminatory access to network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory in accordance with the terms and conditions of the agreement and the requirements of this section and section 252.[5]

This section requires that incumbent LECs provide such network elements "in a manner that allows requesting carriers to combine such elements in order to provide such telecommunications service."[6] The Act defines the term "network element" as "a facility or equipment used in the provision of a telecommunications service," specifying that "[s]uch term also includes features, functions, and capabilities that are provided by means of such facility or equipment, including subscriber numbers, databases, signaling systems, and information sufficient for billing and collection or used in the transmission, routing, or other provisions of a telecommunications service."[7]

10. The Act also establishes a general federal standard for use in determining the UNEs that must be made available by the incumbent LECs pursuant to section 251. Section 251(d)(2) provides that

> [i]n determining what network elements should be made available for purposes of subsection (c)(3), the Commission shall consider, at a minimum, whether – (A) access to such network elements as are proprietary in nature is necessary; and (B) the failure to

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[4] Section 153(44) of the Act defines a telecommunications carrier as "any provider of telecommunications services, except that such term does not include aggregators of telecommunications services (as defined in section 226)." 47 U.S.C. § 153(44). Section 153(44) also states that "[a] telecommunications carrier shall be treated as a common carrier under this Act only to the extent that it is engaged in providing telecommunications services, except that the Commission shall determine whether the provision of fixed and mobile satellite service shall be treated as common carriage." *Id.*

[5] 47 U.S.C. § 251(c)(3).

[6] *Id.* Section 153(46) defines telecommunications service as "the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available to the public, regardless of the facilities used." *Id.* § 153(46).

[7] *Id.* § 153(29).

> provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer.[8]

The 1996 Act also preserves a state role in addressing unbundling issues. First, section 252 authorizes states to review and to arbitrate interconnection agreements for compliance with the requirements of sections 251 and 252 and this Commission's implementing rules.[9] Second, section 251(d)(3) also preserves states' independent state law authority to address unbundling issues to the extent that the exercise of that authority poses no conflict with federal law. That section provides that

> [i]n prescribing and enforcing regulations to implement the requirements of this section, the Commission shall not preclude the enforcement of any regulation, order, or policy of a State commission that – (A) establishes access and interconnection obligations of local exchange carriers; (B) is consistent with the requirements of this section; and (C) does not substantially prevent implementation of the requirements of this section and the purposes of this part.[10]

11. In addition, the statute establishes standards to govern the pricing of UNEs in sections 251 and 252. For UNEs, section 251(c)(3) provides that elements shall be made available "on rates, terms, and conditions that are just, reasonable, and nondiscriminatory."[11] Section 252 provides that:

> [d]eterminations by a State Commission of the . . . just and reasonable rate for network elements for purposes of subsection [251](c)(3) . . . – (A) shall be – (i) based on the cost (determined without reference to a rate-of-return or other rate-based proceeding) of providing the . . . network element . . . , and (ii) nondiscriminatory, and (B) may include a reasonable profit.[12]

The statute also establishes a resale entry vehicle separate from the availability of UNEs. Section 251(c)(4) provides that incumbent LECs have "[t]he duty . . . to offer for resale at wholesale rates any telecommunications service that the carrier provides at retail to subscribers who are not

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[8] *Id.* § 251(d)(2).

[9] *See generally id.* § 252.

[10] *Id.* § 251(d)(3). The states may exercise this state law authority in the course of reviewing interconnection agreements under section 252. *See id.* § 252(e)(3).

[11] *Id.* § 251(c)(3).

[12] *Id.* § 252(d)(1).

telecommunications carriers."[13] Because section 251(c)(4) applies only to retail telecommunications services that the incumbent LEC provides to subscribers, some incumbent LEC services, such as wholesale-only services and information services, are not available at a resale discount to competing carriers. Indeed, as the Commission has discussed in section 271 orders, some incumbent LECs' retail "high-speed Internet access service[s]" have not been affirmatively determined to fall within section 251(c)(4).[14]

12. *Local Competition Order*. The Commission first addressed the unbundling obligations of incumbent LECs in the *Local Competition Order*, which, among other things, adopted rules designed to implement the requirements of the section 251.[15] The Commission interpreted the statutory "necessary" and "impair" standards governing the incumbent LECs' unbundling obligations very broadly. The Commission stated that for purposes of determining whether access to a proprietary network element was "necessary" under section 251(d)(2), the term "[n]ecessary means . . . that an element is a prerequisite for competition."[16] The Commission also found that "[t]he term 'impair' means 'to make or cause to become worse; diminish in value.'"[17] The Commission added that the "impairment" standard requires "the Commission . . . to consider whether the failure of an incumbent to provide access to a network element would decrease the quality, or increase the financial or administrative cost of the service

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[13] *Id.* § 251(c)(4).

[14] *Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance Pursuant to Section 271 of the Telecommunications Act of 1996 To Provide In-Region, InterLATA Services in Arkansas and Missouri*, CC Docket No. 01-194, Memorandum Opinion and Order, 16 FCC Rcd 20719, 20758-61, paras. 79-84 (2001); *see also Application by BellSouth Corp., BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., for Authorization To Provide In-Region, InterLATA Services in Florida and Tennessee*, WC Docket No. 02-307, Memorandum Opinion and Order, 17 FCC Rcd 25828, 25922, para. 178 (2002) (*BellSouth FL/TN 271 Order*); *Application by SBC Communications Inc., Pacific Bell Telephone Company, and Southwestern Bell Communications Services Inc., for Authorization To Provide In-Region, InterLATA Services in California*, WC Docket No. 02-306, Memorandum Opinion and Order, 17 FCC Rcd 25650, 25714, para. 113 (2002); *Joint Application by BellSouth Corp., BellSouth Telecommunications, Inc. and BellSouth Long Distance, Inc. for Provision of In-Region, InterLATA Services in Georgia and Louisiana*, CC Docket No. 02-35, Memorandum Opinion and Order, 17 FCC Rcd 9018, 9174-76, paras. 274-77 (2002) (*BellSouth Georgia/Louisiana Order*).

[15] *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, CC Docket Nos. 96-98, 95-185, First Report and Order, 11 FCC Rcd 15499, 15616-775 (1996) (*Local Competition Order*), *aff'd in part and vacated in part sub nom. Competitive Telecommunications Ass'n v. FCC*, 117 F.3d 1068 (8th Cir. 1997) and *Iowa Utils. Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997), *aff'd in part and remanded*, *AT&T v. Iowa Utils. Bd.*, 525 U.S. 366 (1999) (*Iowa Utils. Bd.*), *on remand*, *Iowa Utils. Bd. v. FCC*, 219 F.3d 744 (8th Cir. 2000), *reversed in part sub nom. Verizon Communications Inc. v. FCC*, 535 U.S. 467 (2002) (*Verizon*), Order on Reconsideration, 11 FCC Rcd 13042 (1996), Second Order on Reconsideration, 11 FCC Rcd 19738 (1996), Third Order on Reconsideration and Further Notice of Proposed Rulemaking, 12 FCC Rcd 12460 (1997), further recons. pending.

[16] *Local Competition Order*, 11 FCC Rcd at 15641, para. 282.

[17] *Id.* at 15643, para. 285.

a requesting carrier seeks to offer, compared with providing that service over other unbundled elements in the incumbent LEC's network."[18]

13. The Commission also adopted a minimum set of UNEs, requiring that incumbent LECs provide unbundled access to local loops,[19] network interface devices,[20] local and tandem switching capability,[21] interoffice transmission facilities,[22] signaling and call-related databases,[23] operations support systems functions,[24] and operator services and directory assistance facilities.[25] The Commission noted that the state commissions were free to prescribe additional elements.[26] The Commission also found that the incumbent LECs were obligated to combine UNEs upon request.[27]

14. In addition, the Commission established the Total Element Long Run Incremental Cost (TELRIC) methodology, a forward-looking, long-run, incremental cost methodology, for the states to use in setting actual rates for UNEs.[28] The Commission found that "the price of a

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[18] *Id.*

[19] In the *Local Competition Order*, the Commission defined the local loop network element "as a transmission facility between a distribution frame, or its equivalent, in an incumbent LEC central office, and the network interface device at the customer premises." *Id.* at 15691, para. 380.

[20] The Commission defined the network interface device network element as a "cross-connect device used to connect loop facilities to inside wiring." *Id.* at 15697, para. 392 n.852.

[21] The Commission defined the local switching network element to include "line-side and trunk-side facilities plus the features, functions and capabilities of the switch." *Id*. at 15706, para. 412.

[22] The Commission stated that the interoffice transmission facilities network element included "unbundled access to shared transmission facilities between end offices and the tandem switch" as well as "unbundled access to dedicated transmission facilities between LEC central offices or between such offices and those of competing carriers." *Id*. at 15718, para. 440.

[23] The Commission stated that "purchase of unbundled elements of the SS7 [signaling] network gives the competitive provider the right to use those elements for signaling between its switches (including unbundled switching elements), between its switches and the incumbent LEC's switches, and between its switches and those third party networks with which the incumbent LEC's SS7 network is interconnected." *Id.* at 15740, para. 483. The Commission required that incumbent LECs make access to their call-related databases available on an unbundled basis for the purpose of switch query and database response through the SS7 network. The Commission stated that "[c]all-related databases are those SS7 databases used for billing and collection or used in the transmission, routing or other provision of a telecommunications service." *Id*. at 15741, para. 484 n.1126.

[24] The Commission required that the incumbent LECs make unbundled access to their operations support systems available for pre-ordering, ordering, provisioning, maintenance and repair, and billing. *Id*. at 15766-67, para. 523.

[25] *Id.* at 15771, para. 534.

[26] *Id*. at 15625-26, para. 244.

[27] *Id.*

[28] *Id*. at 15812-72, paras. 618-740.

network element should include the forward-looking costs that can be attributed directly to the provision of services using that element, which includes a reasonable return on investment (*i.e.*, "profit"), plus a reasonable share of the forward-looking joint and common costs."[29] The Commission determined that TELRIC-based rates for UNEs should not include embedded or historical costs, opportunity costs or universal service subsidies.[30]

15. *Iowa Utilities Board v. FCC.* On review in 1997, the Eighth Circuit vacated many of the rules adopted in the *Local Competition Order* as beyond the Commission's jurisdiction, which it viewed as limited to interstate matters.[31] The court also vacated section 51.315(b) of the Commission's rules, which barred incumbent LECs from separating UNEs before providing them to competitors, on the ground that "unbundled" means "not combined."[32] In addition, the court vacated sections 51.315(c)-(f), which required incumbent LECs to combine elements on behalf of competitive LECs on request, on the ground that section 251(c)(3) does not require incumbent LECs to combine elements on behalf of competitive LECs, but only requires incumbent LECs to provide elements in a manner that permits the competitive LEC to do the actual combining.[33] As to "superior network" issues, the court held that section 251(c)(3) requires "unbundled access only to an incumbent LEC's existing network – not to a yet unbuilt superior one."[34] Specifically, the Eighth Circuit explained that incumbent LECs can be required to modify their facilities "to the extent necessary to accommodate interconnection or access to network elements," but cannot be required "to *alter substantially* their networks in order to provide *superior* quality interconnection and unbundled access."[35] Finally, the court upheld the Commission's interpretation of the "necessary" and "impair" standards.[36]

16. *AT&T v. Iowa Utilities Board*. In 1998, the U.S. Supreme Court reversed the Eighth Circuit's jurisdictional holdings, concluding that the Commission has jurisdiction to implement the local competition provisions of the 1996 Act. The Court, however, vacated the Commission's interpretation of the "necessary" and "impair" standards in section 251(d)(2).[37] In particular, the Court also faulted the Commission for its failure to consider the availability of alternative sources of network elements.[38] The Court also concluded that "the Commission's

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[29] *Id*. at 15844-56, paras. 673-703.

[30] *Id*. at 15844, para. 673; 15857-69, paras. 704-32.

[31] *Iowa Utils. Bd. v. FCC*, 120 F.3d 753.

[32] *Id*. at 813.

[33] *Id.*

[34] *Id*.

[35] *Id.* at 813 n.33 (emphasis added).

[36] *Id*. at 810-12.

[37] *Iowa Utils. Bd*., 525 U.S. 366.

[38] *Id.*

assumption that *any* increase in cost (or decrease in quality) imposed by denial of a network element renders access to that element 'necessary,' and causes the failure to provide that element to 'impair' the entrant's ability to furnish its desired services is simply not in accord with the ordinary and fair meaning of those terms."[39] The Court stated "that the Act requires the FCC to apply *some* limiting standard, rationally related to the goals of the Act, which it has simply failed to do."[40]

17. In conclusion, the Court stated that "if Congress had wanted to give blanket access to incumbents' networks on a basis as unrestricted as the scheme the Commission has come up with, it would not have included § 251(d)(2) in the statute at all."[41] Instead, "[i]t would simply have said . . . that whatever requested element can be provided must be provided."[42] At the same time, the Court declined to find that section 251(d)(2) incorporates "something akin to the 'essential facilities' doctrine" as argued by the incumbent LECs.[43] The Court found that it need not decide whether the statute requires application of that standard as a matter of law, adding "it may be that some other standard would provide an equivalent or better criterion for the limitation upon network-element availability that the statute has in mind."[44]

18. The Court upheld section 51.315(b) of the Commission's rules, which bars an incumbent LEC from separating network elements that are already combined in the incumbent's network before providing them to a competitor if the competitor asks for them in a combined form. The Commission had explained that the rule prevents incumbent LECs from disconnecting previously connected elements merely to impose additional reconnect charges on requesting carriers. The Court stated that section 251(c)(3) is "ambiguous on whether leased network elements may or must be separated, and the rule the Commission has prescribed is entirely rational, finding its basis in § 251(c)(3)'s nondiscrimination requirement."[45]

19. *The Commission's UNE Remand Order*. In 1999, in response to the Supreme Court's decision, the Commission re-examined its treatment of the "necessary" and "impair" standards, as well as the list of UNEs that incumbent LECs must provide.[46] In the *UNE Remand Order*, the Commission adopted narrower requirements for determining the UNEs that

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[39] *Id.* at 389-90.

[40] *Id.* at 388.

[41] *Id.* at 390.

[42] *Id*.

[43] *Id*. at 388.

[44] *Id*.

[45] *Id.* at 395.

[46] *UNE Remand Order*, 15 FCC Rcd 3696.

incumbent LECs must provide pursuant to the "necessary" and "impair" standards, and modified its list of required UNEs, expanding it in certain respects and narrowing it in others.

20. The Commission found that a proprietary network element is "necessary" under section 251(d)(2)(A) "if, taking into consideration the availability of alternative elements outside the incumbent's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third party supplier, lack of access to that element would, as a practical, economic, and operational matter, *preclude* a requesting carrier from providing the services it seeks to offer."[47]

21. The Commission also adopted a new definition of what constitutes "impairment" for purposes of section 251(d)(2)(B). The Commission stated that

> [t]he incumbent LECs' failure to provide access to a non-proprietary network element 'impairs' a requesting carrier . . . if, taking into consideration the availability of alternative elements outside the incumbent's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element *materially diminishes* a requesting carrier's ability to provide the services it seeks to offer.[48]

The Commission added that "[i]n order to evaluate whether there are alternatives actually available to the requesting carrier as a practical, economic and operational matter, we look at the totality of the circumstances associated with using an alternative."[49] The Commission thus held that the "'impair' analysis considers the cost, timeliness, quality, ubiquity, and operational issues associated with the use of an alternative."[50]

22. The Commission also stated that it was "interpret[ing] the obligations imposed in section 251(d)(2) within the larger statutory framework of the 1996 Act," consistent with that section's directive to consider "at a minimum" the "necessary" and "impair" standards.[51] Accordingly, the Commission stated that "in addition to the factors set forth above, we may consider the following factors:"[52] (1) the rapid introduction of competition in all markets -- "whether the availability of an unbundled network element is likely to encourage requesting carriers to enter the local market in order to serve the greatest number of consumers as rapidly as

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[47] *Id.* at 3704 (emphasis in original); *see also id.* at 3720-23, paras. 41-47.

[48] *Id.* at 3704-05 (emphasis in original); *see also id.* at 3723-50, paras. 48-116.

[49] *Id*. at 3705; *see also id.* at 3730, para. 62.

[50] *Id*. at 3705; *see also id.* at 3730-45, paras. 62-100.

[51] *Id.* at 3705; *see also id.* at 3745-46, paras. 101-02.

[52] *Id*. at 3705; *see also id.* at 3746-47, paras. 103-06.

possible[;]"[53] (2) promotion of facilities-based competition, investment and innovation – "the extent to which the unbundling obligations we adopt will encourage the development of facilities-based competition by competitive LECs, and innovation and investment by both incumbent LECs and competitive LECs, especially for the provision of advanced services[;]"[54] (3) reduced regulation – "the extent to which we can encourage investment and innovation by reducing regulatory obligations to provide access to network elements, as alternatives to the incumbent LECs' network elements become available in the future[;]"[55] (4) certainty in the market – "how the unbundling obligations . . . can provide the uniformity and predictability that new entrants and fledgling competitors need to develop national and regional business plans[, as well as] . . . whether the rules . . . provide financial markets with reasonable certainty so that carriers can attract the capital they need to execute their business plans to serve the greatest number of consumers[;]"[56] and (5) administrative practicality – "whether the unbundling obligations . . . are administratively practical to apply."[57]

23. Based on this analysis, the Commission concluded that the following network elements must be unbundled: (1) loops – "including high-capacity lines, xDSL-capable loops, dark fiber, and inside wire owned by the incumbent LEC[;]"[58] (2) subloops – "unbundled access to subloops, or portions of the loop, at any accessible point[;]"[59] (3) NID – "includ[ing] all features, functions and capabilities of the facilities used to connect the loop to premises wiring, regardless of the specific mechanical design[;]"[60] (4) circuit switching – "except for local circuit switching used to serve end users with four or more lines in access density zone 1 in the top 50 Metropolitan Statistical Areas (MSAs), provided that the incumbent LEC provides non-discriminatory, cost-based access to the enhanced extended link throughout zone 1[;]"[61] (5) packet switching – "only in limited circumstances in which the incumbent has placed digital loop carrier systems in the feeder section of the loop or has its Digital Subscriber Line Access Multiplexer (DSLAM) in a remote terminal[;]"[62] (6) interoffice transmission facilities – "unbundled access to dedicated interoffice transmission facilities, or transport, including dark

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[53] *Id.* at 3705; *see also id.* at 3747-48, paras. 107-09.

[54] *Id*. at 3705; *see also id.* at 3748-49, paras. 110-12.

[55] *Id.* at 3705; *see also id.* at 3749, para. 113.

[56] *Id.* at 3705; *see also id.* at 3749-50, paras. 114-15.

[57] *Id.* at 3705; *see also id.* at 3750, para. 116.

[58] *Id*. at 3706; *see also id.* at 3778-87, paras. 181-201.

[59] *Id.* at 3706; *see also id.* at 3788-800, paras. 202-29.

[60] *Id*. at 3706; *see also id.* at 3800-04, paras. 230-40.

[61] *Id*. at 3707; *see also id.* at 3804-32, paras. 241-99. An enhanced extended link is "a combination of an unbundled loop, multiplexing/concentrating equipment, and dedicated transport." *Id*. at 3707.

[62] *Id.* at 3707; *see also id.* at 3832-40, paras. 300-17.

fiber[;]"[63] (7) shared transport – unbundled access to shared transport where unbundled local circuit switching is provided;[64] (8) signaling and call-related databases – including, but not limited to "unbundled access to signaling links and signaling transfer points (STPs) in conjunction with unbundled switching, and on a stand-alone basis[,]" as well as unbundled access to call-related databases;[65] and (9) OSS – "consist[ing] of pre-ordering, ordering, provisioning, maintenance and repair, billing functions supported by an incumbent LEC's databases and information[,]" including "access to all loop qualification information contained in any of the incumbent LEC's databases or other records, including information on whether a particular loop is capable of providing advanced services."[66] The Commission stated that in light of the rapid changes in technology and competition, it would reexamine the national list of UNEs in three years, thereby establishing the Triennial Review process reflected in this Order.

24. *Availability of Enhanced Extended Links.* The Commission subsequently modified its *UNE Remand Order* as it related to the use of UNEs to provide exchange access services originating and terminating long distance services.[67] Specifically, the Commission ruled that on an interim basis, pending further Commission action, "interexchange carriers (IXCs) may not convert special access services to combinations of unbundled loops and transport network elements, whether or not the IXCs self-provide entrance facilities (or obtain them from third parties)."[68] The Commission provided that this restriction would not apply "if an IXC uses combinations of unbundled network elements to provide a significant amount of local exchange service, in addition to exchange access service, to a particular customer."[69] The Commission stated that this temporary restriction on the use of EELs was consistent with its finding in the

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[63] *Id*. at 3707; *see also id.* at 3840-61, paras. 318-68. The Commission defined dedicated interoffice transmission facilities as "incumbent LEC transmission facilities dedicated to a particular customer or carrier that provide telecommunications between wire centers owned by the incumbent LECs or requesting telecommunications carriers, or between switches owned by incumbent LECs or requesting telecommunications carriers." *Id.* at 3707.

[64] *Id*. at 3707. The Commission defined shared transport as "transmission facilities shared by more than one carrier, including the incumbent LEC, between end office switches, between end office switches and tandem switches, and between tandem switches in the incumbent LEC's network." *Id*.

[65] *Id*. at 3707-08. The Commission stated that the call-related databases that must be unbundled "include[d], but [were] not limited to, the Line Information database (LIDB), Toll Free Calling database, Number Portability database, Calling Name (CNAM) database, Operator Services/Directory Assistance databases, Advanced Intelligent Network (AIN) databases, and the AIN platform and architecture." *Id.*

[66] *Id*. at 3708. The Commission specifically found that certain other network elements did not need to be unbundled. The elements that need not be unbundled included: (1) operator services and directory assistance (OS/DA) – except in limited circumstances; (2) shared transport – where the incumbent LEC is not required to offer unbundled local circuit switching; and (3) packet switching – except in limited circumstances. *Id*.

[67] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Supplemental Order, 15 FCC Rcd 1760 (1999) (*Supplemental Order*).

[68] *Id*. at 1760, para. 2.

[69] *Id.*

Local Competition Order that the Commission "may, where necessary, establish a temporary transitional mechanism to help complete all of the steps toward the pro-competitive goals of the 1996 Act, including the full implementation of a competitively-neutral system to fund universal service and a completed transition to cost-based access charges."[70]

25. The Commission later clarified and extended this temporary restriction on the use of EELs to provide exchange access service.[71] In particular, the Commission "define[d] more precisely the 'significant amount of local exchange service' that a requesting carrier must provide in order to obtain loop-transport combinations."[72] The Commission specified three different sets of circumstances that would serve as safe harbors for demonstrating that a requesting carrier was providing a significant amount of local exchange service to a particular customer. The Commission stated that "section 251(d)(2) does not compel [the Commission], once [it] determines[s] that any network element meets the 'impair' standard for one market, to grant competitors automatic access to that same network element solely or primarily for use in a different market."[73] The Commission also clarified that "incumbent LECs must allow requesting carriers to self-certify that they are providing a significant amount of local exchange service over combinations of unbundled network elements."[74] In addition, the Commission noted that there was widespread agreement among all interested parties concerning appropriate auditing procedures.[75]

26. *Line Sharing Order*. In the *Line Sharing Order*, the Commission directed incumbent LECs to provide the high-frequency portion of the local loop (HFPL) to requesting telecommunications carriers as a UNE.[76] In reaching this conclusion, the Commission found that "[a]n incumbent LEC's failure to provide such access impairs the ability of a competitive LEC to

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[70] *Id.* at 1763, para. 7.

[71] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Supplemental Order Clarification, 15 FCC Rcd 9587 (2000), *aff'd sub nom. CompTel v. FCC*, 309 F.3d 3 (D.C. Cir. 2002) (*CompTel*) (*Supplemental Order Clarification*).

[72] *Id*. at 9598, para. 21.

[73] *Id*. at 9595, para. 15.

[74] *Id*. at 9602, para. 29.

[75] *Id*. at 9603-04, para. 31. The Commission also adopted a restriction on the commingling of local exchange and access traffic as an additional means of preventing widespread conversion of special access circuits to UNEs. *Id.* at 9602, para. 28.

[76] *Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket Nos. 98-147, 96-98, Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket No. 96-98, 14 FCC Rcd 20912 (1999) (*Line Sharing Order*).

offer certain forms of xDSL-based services."[77] The Commission stated "[t]he record shows that lack of access would materially raise the cost for competitive LECS to provide advanced services to residential and small business users, delay broad facilities-based market entry and materially limit the scope and quality of competitor service offerings."[78] In order to prevent the degradation of analog voice service, the Commission required that incumbent LECs make the high frequency portion of the loop available only to carriers seeking to provide xDSL-based service that meets certain criteria. The Commission also concluded that "[i]ncumbents are not required to provide unbundled access to the high frequency portion of the loop if they are not currently providing analog voice service to the customer." The Commission also required that incumbent LECs "condition loops to enable requesting carriers to provide acceptable forms of xDSL-based services over the high frequency portion of the loop unless such conditioning would significantly degrade the incumbent's analog voice service."[79]

27. *Iowa Utilities Board v. FCC (Remand Decision)*. In 2000, on remand after the Supreme Court's opinion in *AT&T v. Iowa Utilities Board*, the Eighth Circuit reviewed several more aspects of the *Local Competition Order*.[80] The court vacated on the merits the Commission's rule setting out the TELRIC pricing methodology because the methodology calls for incumbent LECs to be compensated for the use of their network at charges that reflect what an incumbent's costs would be if it were providing the most efficient technology in the most efficient configuration available using its existing wire center locations. The court reasoned that costs based on this "hypothetical" network did not reflect the "cost . . . of providing the interconnection or network element" as required by section 252(d)(1)(A)(i).[81] The court did, however, agree with the Commission that it was reasonable to interpret "cost" to mean forward-looking cost, rather than historical cost,[82] and that the cost of the element should not include any costs of universal service subsidies.[83] The court also reaffirmed its earlier decision to vacate the Commission's new combinations rules, sections 51.315(c)-(f).[84]

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[77] *Id*. at 20916. Digital subscriber line technology, commonly referred to as xDSL, permits high speed connections between subscribers and packet switched networks over ordinary copper telephone loops. *Id.* at 20915, para. 3.

[78] *Id*. at 20916, para. 5.

[79] *Id.* at 20917.

[80] *Iowa Utils. Bd. v. FCC*, 219 F.3d 744.

[81] *Id.* at 750.

[82] *Id.* at 751.

[83] *Id.* at 753. The court also vacated the Commission's resale pricing rule on the ground that section 252(d)(3) requires wholesale rates to reflect those retail costs that the incumbent LEC actually avoids by providing the service at wholesale rather than at retail, not those costs that merely could be avoided. *Id.* at 755.

[84] *Id.* at 759.

28. *Triennial Review NPRM*. In December 2001, about two years after releasing the *UNE Remand Order*, the Commission adopted and released the *Notice* that began the instant proceeding, the *Triennial Review NPRM*.[85] The *Notice* posed questions regarding almost all aspects of the unbundling regime, including the "necessary" and "impair" standards, the "at a minimum" language of section 251(d)(2), whether and how the Commission's previously identified UNEs should be unbundled, and whether the Commission should conduct a more granular impairment analysis.[86] The Commission asked particular questions about crafting unbundling rules that foster facilities investment by both incumbent LECs and new entrants, in particular investment in facilities needed to provide broadband services.[87]

29. *Verizon v. FCC*. In 2002, after the Commission released the *Triennial Review NPRM*, the Supreme Court upheld the TELRIC standard established by the Commission in the *Local Competition Order* and applied by state commissions to set the actual rates for UNEs.[88] In so doing, the Court overturned the decision by the Eighth Circuit concerning the lawfulness of the TELRIC pricing standard. The Court specifically rejected the argument that rates for UNEs must be based on the historic cost incurred by the incumbent LEC in furnishing the specific UNE to be provided as opposed to its value or price in a competitive open market. The Court also affirmed the Commission's decision to base TELRIC costs on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration in light of the existing location of the incumbent's wire centers. In addition, the Court rejected the claim that TELRIC is an unreasonable rate making methodology for UNEs because it does not produce facilities-based competition. The Court stated that it "had no idea whether a different forward-looking pricing scheme would have generated even greater competitive investment than the $55 billion that the entrants claim."[89] The Court, however, emphasized that "it suffices to say that a regulatory scheme that can boast such substantial competitive capital spending over a 4-year period is not easily described as an unreasonable way to promote competitive investment in facilities."[90]

30. Moreover, the Court eliminated remaining uncertainty regarding the Commission's new combinations requirement by explicitly upholding the Commission's rules requiring that incumbent LECs combine UNEs in certain circumstances even if they are not combined in the incumbent's network. The Court stated these rules "reflect a reasonable reading

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[85] *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98, 98-147, Notice of Proposed Rulemaking, 16 FCC Rcd 22781 (2001) (*Triennial Review NPRM*).

[86] *Id*. at 22790, para. 18, 22791, para. 21, 22803-13, paras. 47-70, 22797-802, para. 34-44.

[87] *Id.* at 22793-96, paras. 24-30.

[88] *Verizon*, 535 U.S. 467.

[89] *Verizon*, 535 U.S. at 517.

[90] *Id.*

of the statute, meant to remove practical barriers to competitive entry into local-exchange markets while avoiding serious interference with incumbent network operations."[91]

31. *United States Telecom Association v. FCC*. Eleven days after the Supreme Court's decision in *Verizon,* the D.C. Circuit vacated and remanded for further consideration the portions of the Commission's *UNE Remand Order* that adopted an interpretation of the "impair" standard and established a list of mandatory UNEs, and vacated and remanded as well the Commission's order requiring that the high-frequency portion of the loop be made available as a UNE.[92] Specifically, it appears that the court reversed rule 51.317(b) (the "impair" standard) and rule 51.319 (specific unbundling requirements).[93] As explained below, other rules related to these topics, such as the rules relating to spectrum management and the rule defining the "necessary" standard, remain in effect.[94]

32. While recognizing "the extraordinary complexity of the Commission's task[,]"[95] the court found the Commission's analysis wanting in a number of respects. At the outset, the court criticized what it characterized as the decision in the *UNE Remand Order* "to adopt a uniform national rule, mandating [an] element's unbundling in every geographic market and customer class, without regard to the state of competitive impairment in any particular market."[96] The court concluded that, under this approach, "UNEs will be available to CLECs in many markets where there is no reasonable basis for thinking that competition is suffering from any impairment of a sort that might have [been] the object of Congress's concern."[97] The court stated that "[o]ne reason for such market-specific variations in competitive impairment is the cross-subsidization often ordered by state regulatory commissions, . . [which] usually brings about undercharges for some subscribers (usually rural and/or residential) and overcharges for the others (usually urban and/or business)."[98] In particular, the court stated that "[t]he Commission never explicitly addresses by what criteria want of unbundling can be said to impair competition in such markets [where customers are charged below cost] where, given the ILEC's regulatory

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[91] *Id.* at 535.

[92] *USTA*, 290 F.3d 415.

[93] On September 4, 2002, the court stayed the effectiveness of its opinion until January 2, 2003. *See USTA v. FCC*, No. 00-1012, Order (D.C. Cir. Sept. 4, 2002). Then, on December 23, 2002, the court granted the consent motion of the Commission and the Bell Operating Companies to extend the stay through February 20, 2003. *See USTA v. FCC*, Nos. 00-1012, 00-1015, Order (D.C. Cir. Dec. 23, 2002).

[94] *See infra* Parts V.C., the Necessary Standard, and VI.A.4.a.(v), Specific Unbundling Requirements for Mass Market Loops.

[95] *USTA*, 290 F.3d at 421.

[96] *Id*. at 422.

[97] *Id.*

[98] *Id*.

hobbling, any competition will be wholly artificial."[99] The court added, "[b]ut it is in the other segments of the markets, where presumably ILECs must charge above cost (at least above average costs allocated in conventional regulatory fashion) in order to offset their losses in the subsidized markets, that the gap in the Commission's reasoning is greatest."[100] In particular, the court stated that "the Commission nowhere appears to have considered the advantage CLECs enjoy in being free of any duty to provide underpriced service to rural and/or residential customers and thus of any need to make up the difference elsewhere."[101] The court also concluded that the Commission had failed to adequately explain how a uniform national rule would help to achieve the goals of the Act, including the rapid introduction of competition, promotion of facilities-based competition, investment and innovation, certainty in the market place, administrative practicality and reduced regulation.[102]

33. The court further found that the *UNE Remand Order* improperly "reflect[s] an open-ended notion of what kinds of cost disparity are relevant" for purposes of identifying impairment.[103] In particular, the court stated that "[t]o rely on cost disparities that are universal as between new entrants and incumbents in *any* industry is to invoke a concept too broad, even in support of an *initial* mandate, to be reasonably linked to the purpose of the Act's unbundling provisions."[104] Instead, the court indicated that the Commission must engage in a balancing process, reflecting both the benefits and drawbacks of unbundling, noting that, in his separate opinion in *AT&T v. Iowa Utilities Board*, "Justice Breyer concluded that fulfillment of the Act's purposes . . . called for 'balance' between . . . competing concerns."[105] The court of appeals stated that although it did not "intend to suggest that the Act requires use of [the essential facilities] doctrine's criteria[,]"[106] "[a] cost disparity approach that links 'impairment' to universal characteristics, rather than ones linked in (in some degree) to natural monopoly, can hardly be said to strike such a balance."[107] The court emphasized that "cost comparisons of the sort made by the Commission, largely devoid of any interest in whether the cost characteristics of an 'element' render it at all unsuitable for competitive supply, seem unlikely either to achieve

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[99] *Id*.

[100] *Id*.

[101] *Id*. at 423.

[102] *Id.*

[103] *Id*. at 426.

[104] *Id.* at 427 (emphasis in original).

[105] *Id.* In this regard, the court stated that "[e]ach unbundling of an element imposes costs of its own, spreading the disincentive to invest in innovation and creating complex issues of managing shared resources[,]" while recognizing that "a broad mandate [for unbundling] can facilitate competition by eliminating the need for separate construction of facilities where such construction would be wasteful." *Id.*

[106] *Id.*

[107] *Id.*

the balance called for explicitly by Justice Breyer or implicitly by the Court as a whole."[108] The court also vacated the Commission's *Line Sharing Order*, finding that the Commission had failed to give adequate consideration to existing facilities-based competition in the provision of broadband services, especially by cable systems.[109]

34. *Competitive Telecommunications Association v. FCC.* In 2002, a few months after the D.C. Circuit's decision in *USTA*, the D.C. Circuit upheld the Commission's interim restrictions on the availability of enhanced extended links for use in the provision of exchange access service.[110] The court held that the Commission has authority to restrict the availability of UNEs to particular services for which there has been a showing that denial of the requested element would impair the competitor's ability to provide the service.[111] The court also found that the Commission had provided a reasonable justification for its restrictions on the use of enhanced extended links for the provision of exchange access service. Moreover, the court went on to state that "it is far from obvious to us that the FCC has the power, without an impairment finding as to non-local services, to require that ILECs provide EELs for such services on an unbundled basis[,]" although it did not rule on this issue since it was not raised by the parties.[112] The court also rejected CompTel's argument that the Commission's safe harbor provisions were arbitrary and capricious.[113]

IV. EVOLUTION OF THE MARKET FOR LOCAL TELECOMMUNICATIONS SERVICES

35. To provide context for this Order's unbundling decisions, we describe some of the major developments in the local telecommunications market, with special emphasis on the introduction of competition through the 1996 Act. This Part provides a brief factual overview of telecommunications markets that sets the stage for the unbundling decisions set forth below.

A. Effects of the Act on Telecommunications and Industry Trends

36. The 1996 Act marked the greatest single change in local telephone regulation since the original Communications Act of 1934. Although a few states had initiated significant market opening programs, the 1996 Act opened the monopoly local exchange market on a nationwide basis and also established procedures for the Bell Operating Companies (BOCs) to

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[108] *Id*.

[109] *Id.* at 428-29.

[110] *CompTel*, 309 F.3d at 8.

[111] *See id*. at 12-14.

[112] *Id*. at 14.

[113] *See id*. at 17-18.

enter the interLATA long distance market.[114] Specifically, the 1996 Act expanded existing collocation and interconnection requirements[115] and imposed network access requirements to allow full local service competition through three types of entry: resale, leasing of UNEs and investment in and ownership of full facilities.[116] Various competitive LECs pursued these strategies either singly or in combination. Total service resale requires the least initial capital investment, but is limited to reselling the incumbent LEC products with little opportunity to vary the products other than through improved customer service and bundling additional products with resold local service. Full ownership of facilities, on the other hand, allows the competitive LEC to totally engineer its own network, giving maximum control and flexibility but requiring the most capital investment. Leasing some parts of the network as UNEs, such as unbundled loops, can be accomplished at a lower initial capital investment than full facilities ownership and provides greater flexibility to develop services than does resale, but it may result in less network flexibility to add new services than does full facilities ownership.

37. The competitive LEC industry grew rapidly beginning in 1997. This initial expansion was followed by consolidation beginning in 2001. Direct competitive local service was being offered to mass market and enterprise customers. To a smaller degree, some competitive LECs began to provide selected transport services to other competitive LECs on a wholesale basis. One telecommunications trade association has estimated that in 2000 there were about 300 facilities-based competitive LECs, but that by early 2002 that number had contracted to about 70.[117]

38. The competitive LEC industry experienced major difficulty in 2001 and 2002 due to a slowing general economy and major reduction in access to capital. Some trade associations estimate that competitive LEC capital spending of $21.7 billion in 2000 was down to an estimated $10.7 billion for 2002.[118] Although there has been a significant reduction in the number of competitive LECs, the capital assets for those exiting carriers in some cases returned

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[114] *Local Competition Order*, 11 FCC Rcd at 14174, para. 4; 47 U.S.C. § 271. Nineteen states had some local competition rules in place by the time of the 1996 Act. Seven of these states had firms offering competitive switched access service: California, Illinois, Maryland, Massachusetts, Michigan, New York, and Washington.

[115] *See, e.g.*, *Expanded Interconnection with Local Telephone Company Facilities*, CC Docket No. 91-141, First Report and Order, 7 FCC Rcd 7369 (1992) (*Special Access Order*), *vacated in part and remanded, Bell Atlantic*, 24 F.3d 1441 (D.C. Cir. 1994); *First Reconsideration*, 8 FCC Rcd 127 (1993), *vacated in part and remanded, Bell Atlantic Tel. Cos. v. FCC*, 24 F.3d 1441 (D.C. Cir. 1994); *Second Reconsideration*, 8 FCC Rcd 7341 (1993); *Second Report and Order*, 8 FCC Rcd 7374 (1993) (*Switched Transport Order*), *vacated in part and remanded, Bell Atlantic Telephone Cos., v. FCC*, 24 F.3d 1441; *Remand Order*, 9 FCC Rcd 5154 (1994) (*Virtual Collocation Order*), *remanded for consideration of 1996 Act, Pacific Bell v. FCC*, 81 F.3d 1147 (1996).

[116] 47 U.S.C. § 251. Congress recognized that it might be inefficient or impossible for competitive LECs to duplicate the entire incumbent LEC telecommunications network to enter a market and established several modes of possible market entry, including resale and UNEs, as well as full facilities deployment.

[117] ALTS, THE STATE OF LOCAL COMPETITION 2002, Annual Report 5 (Apr. 2002) (ALTS 2002 Report).

[118] *Id.* at 11.

to productive use by other entities. Accordingly, much of this investment has not been lost, but rather shifted to new companies and put back into service.[119]

39. Although precise figures about competitive LEC services are difficult to obtain, parties in this proceeding have provided some estimates.[120] At the end of 2001, competitive LECs had almost 25,000 collocation arrangements with the BOCs, up from less than 5,000 in 1998.[121] Minutes of traffic exchanged had grown from less than 100 billion to almost 500 billion minutes from 1998 through 2001.[122] In the same time period, competitive LEC access lines grew from an estimated 8-9 million to 23-32 million lines.[123] Estimates provided by analysts, BOCs, and trade groups indicate that competitive LEC revenues from local service have risen from $3.5 billion in 1998 to $9.5 billion in 2001.[124] By 2001, competitive LECs had deployed about 1,300 local circuit switches, with potential coverage of over 86 percent of BOC access lines.[125]

40. Incumbent LECs have also entered the competitive LEC market. Some have expanded their existing network into adjacent, usually BOC, territory. Others have established separate competitive entities and operate further afield.[126] In addition to existing telecommunications companies expanding into local service, new companies have been created to address new opportunities.[127] Cable companies have also deployed networks to serve business

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[119] *See* ALTS, PROGRESS REPORT ON THE CLEC INDUSTRY (Oct. 17, 2002), <http://www.alts.org/Filings/101702CLECProgressReport.pdf>, for ALTS' detailed analysis of current and projected health of the competitive LEC industry.

[120] The data supplied do not generally distinguish between mass market and enterprise services, but they provide some clues about the state of competition in the mass market.

[121] SBC Comments, Attach. A at I-4.

[122] *Id*. at I-4.

[123] *Id*. at I-5. In mid-2002, competitive LECs reported they provided slightly more than 21 million total access lines, including resale, UNEs and full facilities; competitive LEC-owned facilities comprised about 6.2 million lines. Industry Analysis and Technology Division, Wireline Competition Bureau, *Local Telephone Competition: Status as of June 30, 2002* (Dec. 2002) at Table 3 (*Local Telephone Competition December 2002 Report*).

[124] SBC Comments, Attach. A, UNE Fact Report 2002 at I-13 (BOC UNE Fact Report 2002); ALTS 2002 Report at 9.

[125] BOC UNE Fact Report 2002 at II-1. The record indicates that in 2001, competitive LECs owned 339,501 route miles of fiber. ALTS 2002 Report at 17.

[126] There are at least 45 competitive LECs with incumbent LEC affiliations. Numbering Resource Utilization/Forecast (NRUF) FCC Form 502, as of December 31, 2001, staff calculation.

[127] For example, Sempra in San Diego and Dominion Telecom in Hartford-New Haven were laying fiber. Utility companies such as Avista, Montana Power, Pacific Enterprises of Southern California, UtiliCorp of Kansas/Missouri and PEPCO entered the telecommunications business. Citizens Utilities, for one, has more than two million access lines in the United States. *See* Telecommunications Industry Association, *2002 Telecommunications Market Review and Forecast*, at 37 (2002) (TIA 2002 Market Review).

customers.[128] These are generally not the historic hybrid-fiber-coaxial cable networks providing service to residential customers but newly deployed facilities specifically designed to serve enterprise customers.

41. Competitive LECs' purchase of total service resale has declined from a peak of almost 5.4 million lines in 2000 to below 3.5 million lines by mid-2002.[129] Over the same time period, total access lines served by UNE-Loops (UNE-L) and UNE-P combinations have grown from about 1.5 million to about 11.5 million.[130] UNE-L grew from 1 million to 4 million lines. UNE-P lines grew from less than half a million to almost 7.5 million.[131] These UNE-L and UNE-P represent approximately 6.9 percent of BOC access lines.[132] Competitive LECs provide service to about 16-20 percent of all access lines in the BOC territories: 26-33 percent of business access and about 9 percent of residential access lines.[133] Considering all modes of entry, competitive LEC lines probably exceed 10 percent of BOC lines in most states. The BOCs at present serve 87 percent of all incumbent LEC access lines while the "independent" incumbent LECs serve the balance.[134]

42. Fiber transport facilities have also increased in recent years. The BOCs estimate that since 1998, competitive LEC-owned fiber has increased from 100,000 to 184,000 route miles. In addition, wholesale suppliers of fiber continue to invest in facilities that are being used by all carriers.[135] Much of this interoffice transport is long-haul intercity, rather than local. For

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[128] In June 2002 cable carriers responded that they provide fewer than 16,000 coaxial cable connections to medium and large businesses; small business and residential services are not separately reported. Industry Analysis and Technology Division, Wireline Competition Bureau, *High Speed Services for Internet Access: Status as of June 30, 2002* (Dec. 2002) calculation using Table 3 and Table 5 (*High Speed Services December 2002 Report*).

[129] *Local Telephone Competition December 2002 Report* at Table 2, Table 4.

[130] The UNE-P consists of a leased combination of the loop, local switching and shared transport UNEs.

[131] *Local Telephone Competition December 2002 Report* at Table 4. PACE estimates that UNE-P grew to over ten million lines by the end of 2002. Letter from Genevieve Morelli, Counsel for PACE, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 1 (filed Jan. 14, 2003) (PACE Jan. 14, 2003 UNE-P Fact Report).

[132] *Local Telephone Competition December 2002 Report* at Table 4. In mid-2002, about 65% of UNE lines included switching. While competitive LEC end-user lines increased by about 30% from December 2000 to June 2002, UNEs and especially UNE-P have become a higher percentage of competitive LEC lines from 2000 to mid-2002. Considering the PACE estimate of ten million UNE-P lines at the end of 2002, competitive LECs would have 8.2% of BOC lines in UNE-L and UNE-P. PACE Jan. 14, 2003 *Ex Parte* Letter, UNE-P Fact Report Attach. at 1.

[133] BOC UNE Fact Report 2002 at I-7. This figure includes competitive LEC services provided through resale, UNE-P, UNE-L and fully-owned facilities.

[134] Industry Analysis and Technology Division, Wireline Competition Bureau, *Trends in Telephone Service* (May 2002) at Table 8.3 (*Trends in Telephone Service May 2002 Report*).

[135] BOC UNE Fact Report 2002 at III-8 to III-14. The route miles deployed and planned are difficult to estimate. ALTS estimates competitive LEC fiber miles at almost 340,000 miles in 2001. ALTS 2002 Report at 17.

any given city, a competitive LEC may or may not have non-incumbent LEC interoffice transport sufficient to link the various wire centers necessary to offer local service.[136]

B. Markets for Telecommunications Services

43. Some competitive LECs have pursued the medium and large business enterprise markets while others have pursued mass market strategies. As discussed below in detail, the economic characteristics of these markets vary significantly.[137] In this Part, we summarize general observations about the overall development of competition for these customer classes.

1. The Enterprise Market

44. Within the enterprise market for telecommunications services, new entrants began competing with the incumbent LECs in the mid-1980s. Beginning in New York in the mid-1980s, competitive fiber suppliers (competitive access providers or CAPs) began providing competitive exchange access service to larger business customers.[138] The CAPs, in general, provided a specialized service to their customers – connecting incumbent LECs' local wire centers to interexchange carriers' points of presence (POPs) and large enterprise customers directly to interexchange carrier POPs.[139] The CAPs enjoyed some success in this market as they were able to underprice the incumbent LECs' comparable (but regulated) special access services.[140] By 1993, the ten largest CAPs had revenues of $209.6 million from providing

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[136] Allegiance Comments at 28. Allegiance provisions about 70% of its DS3 interoffice transport through the incumbent LEC. *Id*. ALTS states that competitive fiber is only available in about 15% of all BOC wire centers. ALTS *et al*. Comments at 63. Covad and Mpower state they have competitive fiber alternatives in about one-half of the incumbent LECs central offices where they collocate. Covad Comments at 67-68; Mpower Reply at 13-16; Letter from Ross A. Buntrock, Counsel for Mpower, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 7 (filed Oct. 11, 2002) (Mpower Oct. 11, 2002 *Ex Parte* Letter). Broadview has experienced competitive transport availability in only about 20% of cases. Letter from Rebecca H. Sommi, Vice President, Operations Support, Broadview, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 14 (filed Aug. 2, 2002) (Broadview Aug. 2, 2002 *Ex Parte* Letter); *see also* Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 7-10 (filed Oct. 8, 2002) (AT&T Oct. 8, 2002 *Ex Parte* Letter).

[137] *See infra* Part V.B.2.

[138] By the late 1980s, companies like Teleport Communications Group in New York; Institutional Communications Company in Washington, D.C.; Chicago Fiber Optic/MFS in Chicago, Baltimore and Philadelphia; Kansas City Fiber Net in Kansas City; and other CAPs had begun to develop networks in traditional BOC territories. RICHARD G. TOMLINSON, TELE-REVOLUTION – TELEPHONE COMPETITION AT THE SPEED OF LIGHT 87-88 (2000).

[139] AT&T, MCI and Sprint are the largest interexchange carriers. Industry Analysis and Technology Division, Wireline Competition Bureau, *Statistics of Communications Common Carriers* (Sept. 2002) at Table 1.4 (*Statistics of Communications Common Carriers December 2001 Report*). These interexchange carriers accounted for 83% of reported 1996 long distance carrier revenues. CAPs connected large business customers directly to the interexchange carrier's POP, bypassing the incumbent LEC's switch and thereby avoiding access charges.

[140] In 1999, the Commission established a framework by which incumbent LECs could obtain pricing flexibility in the provisioning of special access services. *See Access Charge Reform*, CC Docket Nos. 96-262, 94-1, 98-157, (continued….)

competitive access either through fiber or microwave technologies, out of a total of $91 billion in telecommunications revenue nationally.[141] CAPs began to install more infrastructure and expand services where approved by state regulatory authority. By 1995, the CAPs' total revenues had exceeded $1 billion with about one-half from dedicated access and private line service and the balance from local switched service, switched access and data service.[142] Approximately 57 CAPs were providing competitive access services in 1996 and were well positioned when Congress passed the 1996 Act.[143] Interexchange carriers and CAPs quickly entered the newly opened local markets as competitive LECs,[144] and large interexchange carriers began to acquire CAPs to facilitate local market entry.[145]

45. Since 1996, new entrants have captured some of the enterprise market. Competitive LECs report about 51 percent of their customer access lines serve medium and large business customers.[146] Unlike the incumbent LEC legacy network that was built out from central offices in a radiating pattern, competitive LECs collocated in few incumbent LEC central offices and built fiber ring-lateral-spur configurations to connect large business customers.[147] Competitive LECs self-provision facilities, lease facilities from other competitive facilities providers or purchase high-capacity (DS1 and above) loops either as UNEs or special access services from the incumbent LECs. Competitive LECs' high-capacity loops, however provisioned, are difficult to count. BOCs estimate that competitive LECs' share of special

(Continued from previous page)

CCB/CPD File No. 98-63, Fifth Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd 14221, 14224-25, paras. 2-3 (1999) (*Pricing Flexibility Order*).

[141] TOMLINSON, *supra* note 138, at 241-42.

[142] *Id*. at 241-65.

[143] TIA 2002 Market Review at 37.

[144] Carriers have not generally used satellite technologies to serve the enterprise market. While there was some fixed wireless entry in the enterprise market, it has been limited. *See*, *e.g.*, AT&T Comments, Attach. F, Declaration of Robert D. Willig (AT&T Willig Decl.) at paras. 200-01.

[145] MCI had acquired extensive rights-of-way and fiber cable in over 100 cities from Western Union in 1990, creating the competitive LEC MCIMetro in 1994. WorldCom acquired MFS, the largest competitive LEC, in 1996, Brooks Fiber in 1997 and MCIMetro, the fourth largest competitive LEC, in 1998. WorldCom had also acquired UUNET Technologies (which was providing Internet access to 350 corporate local area networks (LANs)) in August 1996. AT&T acquired the second largest ex-CAP, Teleport Communications Group, in early 1998. Accordingly, for a period of time after the enactment of the 1996 Act, WorldCom and AT&T were the two largest competitive LECs, accounting for about one-half of all competitive LEC revenues for 1998. TOMLINSON, *supra* note 138, at 346-54.

[146] *Local Telephone Competition December 2002 Report* at Table 2.

[147] MARTIN F. MCDERMOTT III, CLEC – AN INSIDER'S LOOK AT THE RISE AND FALL OF LOCAL EXCHANGE COMPETITION 64 (2002).

access revenues is at least 28 percent.[148] The enterprise market has been expanding, and the BOCs also expanded their services in this market. BOCs report about 22 percent of their customer access lines serve medium and large business customers.[149] Further, BOCs state that they provided 19.5 million special access lines in 1996, growing to 78.6 million lines in 2001.[150] BOC provisioning of fiber and high-capacity loops to end-user customers' premises significantly increased in recent years. Total BOC reported DS1s terminating at customer premises increased over four fold from fewer than 300,000 in 1996, to over 600,000 by 1999 and almost 1.3 million in 2001.[151] BOC reported fiber terminated to customers' premises more than doubled between 1996 and 2001, from just under 1 million to over 2 million lines.[152]

46. To meet the business demands of enterprise customers, competitive carriers must meet more stringent design and operational standards with higher capacity and more reliability. Specifically, enterprise customers demand several different kinds of packet switching services provided by these competitive carriers including frame relay, and its predecessor X.25, which allow local area networks to be connected across a public network. Frame relay is especially valuable in connecting employees in several different, distant locations and more than 35,000 enterprises customers utilize frame relay with more than one million ports.[153] The frame relay market for services has grown from about $1.3 billion in 1996 to $7.6 billion in 2001 and use of frame relay is growing at a faster rate than use of dedicated leased lines because it is more economical and flexible.[154] Another technology, asynchronous transfer mode (ATM), however, is the most widely used carrier backbone technology and can guarantee different quality of service levels to meet different customer needs.[155] Frame relay's rapid growth slowed somewhat in recent years, partially as ATM became more widely deployed. In 2001, ATM technology had

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[148] BOC UNE Fact Report 2002, App. L, at L-1, L-2. It is difficult to obtain data on the competitive LECs' market share. It appears, however, that the special access market is growing and the BOCs themselves are providing more special access services. *Id*.

[149] *Local Telephone Competition December 2002 Report* at Table 2.

[150] *Statistics of Communications Common Carriers September 2002 Report* at Table 2.6; Industry Analysis Division, Common Carrier Bureau, *Statistics of Communications Common Carriers* (Dec. 1997) at Table 2.10 (*Statistics of Communications Common Carriers December 1997 Report*).

[151] ARMIS Report 43-07 (Transmission Facilities, DS1s Terminated at Customer Premises, 1996 to 2001).

[152] *Id*. (Transmission Facilities, Fiber Terminated at Customer Premises, 1996 to 2001).

[153] TIA 2002 Market Review at 136.

[154] *Id*. at 138-39, Table III-11.2.

[155] *Id*. at 140.

a total bandwidth of over 12,000 DS0s while frame relay had fewer than 11,000 DS0 equivalents.[156]

47. A relatively new, but growing voice service used by enterprise customers is telephony provided over Internet protocol, also known as IP telephony.[157] Some analysts have estimated that close to half of U.S. businesses have implemented private business exchanges (PBXs) capable of providing IP telephony and place calls among corporate locations over an IP network: the IP PBX market is projected to be $3.9 billion (20 percent of the PBX market) by 2005, and 25 percent of call center contacts currently use IP technology.[158]

48. Some competitive LECs market integrated voice and data services to enterprise customers.[159] The business plan of these competitive LECs involves leasing high-capacity loops as UNEs and then using them efficiently to provide a bundled offering including voice, data and Internet access.[160]

49. In serving enterprise customers, the BOCs must operate under the Act's restrictions on BOCs originating long distance service from their regions until they have gained section 271 approval.[161] Many approvals have been granted, allowing the BOCs to expand their

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[156] *Id*. at 143. In 2001, there were about 26,000 ATM ports compared to 1.2 million frame relay ports. The high cost and technical complexity relative to other technologies make ATM potentially vulnerable to new technologies that might be provided at a lower cost. *Id*. at 140-43.

[157] We do not intend to define the regulatory classification of "IP telephony" here, but merely to discuss its use and growth in very broad terms.

[158] *See*, *e.g.*, CommWeb.com, *VoIP/IP Telephony Statistics* (Oct. 15, 2002), <http://www.commweb.com/article/COM20021015S0002> (visited Dec. 16, 2002).

[159] Companies such as ITC^Deltacom, NewSouth and Cbeyond have focused on providing integrated services to the business market. ALTS *et al*. Comments at 16; *see also* NewSouth Comments at 7-38; NuVox Comments at 5-8; ITC^Deltacom Petition for Waiver of Supplemental Order Clarification, CC Docket No. 96-98 at 1-2 (filed Aug. 16, 2001) (ITC^Deltacom Aug. 16, 2001 Petition).

[160] ALTS *et al*. Comments at 33. ITC^Deltacom, for example, offers a bundled package consisting of facilities-based long distance, local service, data and Internet access services and customer premises equipment. ITC^Deltacom Aug. 16, 2001 Petition at 1-2. NewSouth markets to small businesses, typically leasing a single DS1 as a UNE to support a mix of voice and data services. NewSouth Comments at 5. Over 90% of NewSouth customers are being served by DS1s upgraded from previous analog services. *Id.* NewSouth has deployed digital circuit and packet switches and leased intercity lit fiber from third parties to connect its switches and collocated equipment in incumbent LEC central offices. *Id.* at 9. NewSouth states that its facilities allow it to offer customers better prices and more and varied services. *Id.* at 9-10.

[161] 47 U.S.C. § 271. As an incentive to BOCs opening their local markets, Congress enacted section 271, which allows the Commission to grant BOCs entry into the interLATA market after the BOC has demonstrated that it has implemented the necessary conditions to open its market. The first section 271 authority was granted to Verizon in New York in December 1999. *Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act To Provide In-Region, InterLATA Service in the State of New York*, CC Docket No. 99-295, Memorandum Opinion and Order, 15 FCC Rcd 3953 (1999) (*Bell Atlantic New York 271 Order*).

enterprise offerings. Currently, the BOCs have authority to provide in-region long distance service in 43 states, representing 82.6 percent of the BOC access lines and 82.2 percent of the United States population.[162] BellSouth was the first BOC to complete all section 271 authorizations for its service territory.[163]

2. The Mass Market

50. The mass market for telecommunications services before 1996 was served more by monopoly providers than was the enterprise market.[164] Since 1996, various competitive LECs have used one or more of the three entry strategies set forth in the 1996 Act to provide competitive local service to many residential customers in the United States. By mid-2002, over 93 percent of the United States population lived in a zip code served by at least one competitive LEC providing some kind of service.[165] It appears that competitive LECs are more often found in urban than rural areas.[166] Over 51 percent of competitive LEC lines serve the residential/small business market while over 78 percent of BOC lines serve this group.[167]

51. The mass market has also seen competition increase in the provision of broadband services, largely fueled by the popularity of the Internet.[168] The residential market for Internet access has supported additional line growth for dial-up service. In 1988, only 2.7 percent of households had two or more telephone lines. That percentage steadily increased to 9.1 percent in

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[162] Population numbers include Alaska, Hawaii and all of Connecticut. BOCs do not operate in Alaska and Hawaii. Some states have a low percentage of BOC access lines or, as is the case in SBC's territory in Connecticut, are not subject to section 271.

[163] *BellSouth FL/TN 271 Order*, 17 FCC Rcd 25828.

[164] The exception to this statement was the provision of commercial mobile radio service (CMRS), a service which had 44 million residential and business telephony subscribers in 1996. *Trends in Telephone Service May 2002 Report* at Table 12.2. However, the number of subscribers has risen to almost 129 million by mid-2002. *Local Telephone Competition December 2002 Report* at Table 11. Commercial mobile service is any mobile service, as defined in section 3 of the Act, as amended, provided for profit and making interconnection services available to the public. *See* 47 U.S.C. § 332(d)(1). Commercial Mobile Services became known by the Commission as the Commercial Mobile Radio Service, or CMRS. *See* 47 C.F.R. § 20.9. Mobile Telephony is a "CMRS."

[165] *Local Telephone Competition December 2002 Report* at Table 13. Competitive LECs' access lines total about 17 million, or 9% of total U.S. access lines. *Id*. (calculation using Table 3 and Table 4). By mid-2002, over 11 million BOC lines had been leased as UNE-L or UNE-P to competitive LECs. *Id.* at Table 4.

[166] Thirty-three percent of all zip codes, serving about 7% of the population, have no competitive LEC presence. *Id*. at Table 12; *see also* James Zolnierek, James Eisner & Ellen Burton, *An Empirical Examination of Entry Patterns in Local Telephone Markets*, 19 J. REG. ECON. 143-59 (2001) (quantifying increased competitive LEC presence in areas with a high percentage of urban households).

[167] *Local Telephone Competition December 2002 Report* at Table 2.

[168] *See* FCC Technical Advisory Council, Optical Working Group, *Broadband Access Platforms for the Mass Market – An Assessment* (Dec. 4, 2002), <http://www.fcc.gov/oet/tac/Broadband_Access_Supporting_Materials_12_4_02.ppt>.

1992, 16.8 percent in 1996, 19.7 percent in 1998, and 26.5 percent in 2000.[169] Internet access has spurred growing xDSL subscription. As of mid 2002, there were about 5.1 million xDSL lines in service. Incumbent LECs were the major providers of xDSL service with 95.6 percent of xDSL lines, while competitive LECs accounted for 4.4 percent.[170] Eighty-two percent of the incumbent LECs' xDSL lines and 39 percent of the competitive LECs' xDSL lines are residential. The BOCs served about 4.5 million xDSL customers in mid 2002. Due to technical network limitations and other reasons, less than 50 percent of BOC customers are able to subscribe to xDSL. One state commission expects this percentage to rise to about 75 percent by 2005.[171]

52. The mass market has also experienced increased narrowband and broadband competition from intermodal competitors. Cable operators have expanded into both voice telephony and cable modem service, which have, to a limited extent, competed with services of traditional wireline providers.[172] The cable companies have remained focused on mass market, largely residential service consistent with their historic residential network footprints, and bundling telephone service with cable modem services.[173] More broadly, cable companies are offering cable modem service capability to 71 percent of United States households with a current take rate of about 11 percent.[174] In 2002, cable companies provided cable modem service to approximately 9.2 million subscribers.[175] Some cable companies have begun offering local voice service.[176] In mid-2002, cable telephony represented over 2.5 million access lines in 27 states, a

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[169] *Trends in Telephone Service May 2002 Report* at Table 8.4. It appears that the proportion of households with additional lines declined to 24.6% for 2001. Preliminary staff estimate for 2001.

[170] *High Speed Services December 2002 Report* at Table 5

[171] Letter from Lila A. Jaber, Chairman, Florida Public Service Commission, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 96-98, 98-146, 98-147, 01-337, 02-33, Attach. at 12-15 (filed Nov. 6, 2002) (Florida Commission Nov. 6, 2002 *Ex Parte* Letter).

[172] The largest such residential service cable companies are Adelphia Business Solutions/Hyperion, Cablevision Lightpath, Comcast Business Communications, Cox Fibernet/Cox Business Services and Time Warner Telecom. National Cable & Telecommunications Association, *Cable Telephony: Offering Consumers Competitive Choice*, at 8-9 (July 2001) (NCTA 2001 Report), <http://www.ncta.com/pdf_files/Telephony_ReportComplete.pdf>.

[173] However, there is some recent cable expansion into the enterprise market. Letter from Edward Shakin, Vice President and Associate General Counsel, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, 02-33, 01-337 at 1-4 (filed Jan. 15, 2003) (Verizon Jan. 15, 2003 *Ex Parte* Letter).

[174] *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable And Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, Third Report, 17 FCC Rcd 2844, 2871-72, paras. 65-66 (2002) (*Third Section 706 Report 2002*); *High Speed Services December 2002 Report* at Table 1. Some analysts expect cable modem subscriptions to increase to 28-30 million by 2006 with a 40% penetration rate. *Third Section 706 Report 2002*, 17 FCC Rcd at 2872, para. 66.

[175] *High Speed Services December 2002 Report* at Table 5.

[176] Cox and AT&T are the largest voice-over-cable providers. NCTA 2001 Report at 1-4.

39 percent growth over the previous year.[177] Industry sources state that over 10 million households have access to cable telephony.[178] Cable companies' voice service competes with the primary landline voice service and second line while cable modem service competes with second line dial-up service and xDSL service.

53. Wireless telephone subscriber growth for the mass market has been remarkable. From fewer than 100,000 subscribers in 1984, there were over 5 million subscribers by 1990, over 44 million in 1996, and almost 129 million by mid-2002.[179] Over 90 percent of the United States population lives in counties served by three or more wireless operators; about two in five Americans now have a mobile phone.[180] Prices for wireless service have steadily declined in recent years. In 1990 average wireless bills were over $80 a month while the average monthly bill in mid-2001 was about $46.[181] Sixty-one percent of households had at least one wireless telephone in mid-2001.[182] Notably, 3 to 5 percent of wireless customers use their wireless phone as their only phone.[183] Some carriers attribute, at least in part, the recent drop in wireline switched access lines[184] to this replacement of wireline phones by wireless phones. This replacement may particularly affect second-line growth.[185]

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[177] *Local Telephone Competition December 2002 Report* at Table 5 and staff calculation.

[178] BOC UNE Fact Report 2002 at II-11.

[179] *Local Telephone Competition December 2002 Report* at Table 11. The wireless survey data present total cellular, broadband personal communications service (PCS), and specialized mobile radio (SMR) subscribers and does not distinguish between mass market and enterprise customers.

[180] BOC UNE Fact Report 2002 at I-4.

[181] *Trends in Telephone Service May 2002 Report* at Table 12.3.

[182] *Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993*, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, Seventh Report, 17 FCC Rcd 12985, 13016 (2002) (*Seventh Wireless Report 2002*).

[183] *Id*. at 13017.

[184] Since 2000, we have seen for the first time a decrease in the number of retail access lines served by the incumbent LECs: from 2000 to 2002, their share of access lines declined by about nine million, or about 4.7%. *Local Telephone Competition December 2002 Report* at Table 4. Some of the decline can be attributed to a decline in additional lines in households. Recent growth in additional residential lines in a household, from 16.8% in 1996 to 26.5% in 2000, appears to have decreased to less than 25% in 2001. *Trends in Telephone Service May 2002 Report*, Table 8.4 and preliminary staff estimate for 2001. Despite the recent drop in the number of BOC retail switched access lines, the retail and wholesale lines combined provided by BOCs have increased each year since 1996. BOC business service offerings have expanded in recent years with more special access (measured as DS0 equivalents). Considering all switched and non-switched access lines, the BOCs' total access line count has increased in recent years, at 188.3 million in 1999, 228.5 million in 2000 and 235.3 million in 2001. *See Statistics of Communications Common Carriers September 2002 Report* at Table 2.6; Industry Analysis Division, Common Carrier Bureau, *Statistics of Communications Common Carriers* (Sept. 2001) at Table 2.6 (*Statistics of Communications Common Carriers September 2001 Report*); Industry Analysis Division, Common Carrier Bureau, (continued….)

54. High-speed satellite data service is also available in most areas of the United States. Satellite broadband exists and is most attractive where xDSL or cable modem service is not available.[186] But satellite services generally are not price competitive with wireline services in the mass market except in specialized situations.[187] As two-way Internet connectivity is deployed and if prices decline over time, satellite service may become a more viable alternative to terrestrial high-speed services like xDSL. In 2001, there were only 212,610 reported high speed service subscribers of satellite and fixed wireless combined.[188]

V. PRINCIPLES OF UNBUNDLING

55. In this Part, we set forth our new standards and guiding principles for determining when a network element should be unbundled. We adopt below an approach to unbundling that is faithful to the statute, responsive to the Supreme Court and the D.C. Circuit, economically rational, and that embraces the states' involvement in the unbundling process.

56. In subpart A, we interpret the definition of "network element" contained in section 153(29) of the Act as it relates to our unbundling inquiry. Specifically, we conclude that a "network element" refers to an element of the incumbent LEC's network that is capable of being used to provide a telecommunications service. In subpart B, we set forth our new interpretation of "impair." We analyze principles from the Supreme Court and D.C. Circuit opinions on "impair"; what guidance we derive from the language, structure, purposes, and history of the 1996 Act; and what lessons we can take from economic and legal literature on topics that bear some resemblance to the ambiguous "impair" standard in an effort to make our

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Statistics of Communications Common Carriers (Aug. 2000) at Table 2.6 (*Statistics of Communications Common Carriers August 2000 Report*).

[185] *Seventh Wireless Report* 2002, 17 FCC Rcd at 13016-17. The penetration rate is calculated by dividing total wireless subscribers by total population. Such replacement may also be occurring for long distance. *Id*. at 13018. Other forms of wireless availability have improved in recent years, becoming a possible method to access the Internet for some customers. Mobile data services had between 2 and 2.5 million subscribers in 2000 and between eight and ten million subscribers in 2001. *Id*. at 13038-39.

Local Multipoint Distribution System (LMDS) is another fixed wireless broadband transmission technology. Most effective where customers are closely grouped, this line-of-sight transmission technology has not been significantly deployed. About $220 million LMDS investment occurred in 2001, as compared to $61 million the year before. *See* TIA 2002 Market Review at 195. As the wireless technology continues to improve, wireless may become a more practical and attractive alternative to wireline for data services.

[186] *Third Section 706 Report 2002*, 17 FCC Rcd at 2877, para. 78. Until recently, only one-way Internet connectivity was available, with a dial-up upstream connection accompanied by a high-speed satellite-based downstream path. *Id*. at 2880, para. 85.

[187] Some analysts estimate that the 20-30 million United States homes where cable modem or xDSL is not available are the most likely current potential customers for satellite services. *Id*. at 2877, para. 78.

[188] Industry Analysis and Technology Division, Wireline Competition Bureau, *High Speed Services for Internet Access: Status as of December 31, 2001* (July 2002) at Table 1, Table 2 (*High Speed Services July 2002 Report*).

interpretation as economically rational as possible. From these sources, we derive an interpretation of "impair" that asks whether lack of access to an incumbent LEC network element poses a barrier or barriers to entry, including operational and economic barriers, that are likely to make entry into a market uneconomic. We will apply this interpretation of "impair" to individual elements in a more granular manner than the Commission has in the past, taking into account different customer classes, geographic considerations, and service considerations. We also explain the relationship between unbundling obligations and implicit support flows.

57. In subpart C, we reaffirm our existing interpretation of the "necessary" standard. In subpart D, we reaffirm our interpretation of the "at a minimum" language of section 251(d)(2), although we emphasize that we apply this language with restraint throughout the Order, and we find no instances on this record where unbundling is warranted in the absence of impairment. In subpart E, we explain the critical role of the states in the unbundling process; specifically, we explain how we will delegate to the states the authority to perform a more granular analysis to determine where unbundling is appropriate, and the extent to which states may establish unbundling requirements pursuant to state law that are consistent with federal requirements.

A. Definition of "Network Element"

58. We reaffirm our previous interpretation of the definition of "network element," set forth in section 153(29) of the Act, as requiring incumbent LECs to make available to requesting carriers network elements that are capable of being used in the provision of a telecommunications service.[189] Section 153(29) defines "network element" as "a facility or equipment used in the provision of a telecommunications service. Such term also includes features, functions and capabilities that are provided by means of such facility or equipment . . . ."[190] As an initial matter, we disagree with those commenters that continue to argue that "network elements" can only be physical facilities or pieces of equipment and therefore cannot include mere features, functions, and capabilities of a physical facility or equipment, such as a portion of the available bandwidth of a loop.[191] Several courts, including the Supreme Court, have previously considered and rejected this argument. Indeed, the Supreme Court stated that "[g]iven the breadth of [Congress's network element] definition, it is impossible to credit the incumbents' argument that a 'network element' must be part of the physical facilities and equipment used to provide local telephone service."[192]

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[189] *UNE Remand Order*, 15 FCC Rcd at 3845, para. 329.

[190] 47 U.S.C. § 153(29).

[191] *See, e.g.*, Verizon Comments at 82-83.

[192] *Iowa Utils. Bd.*, 525 U.S. at 387; *see also USTA*, 290 F.3d at 430 (upholding the Commission's decision that the high frequency portion of the loop is a capability of the loop, and stating that "the Commission's view is convincing.").

59. In addition, the definition of a network element is ambiguous as to whether the facility or equipment (and the accompanying features, functions and capabilities) must be *actually used by the incumbent LEC* in the provision of a telecommunications service or must be *capable of being used* by a requesting carrier in the provision of a telecommunications service regardless of whether the incumbent LEC is actually using the network element to provide a telecommunications service.[193] We find that, taken together, the relevant statutory provisions and the purposes of the 1996 Act support requiring incumbent LECs to provide access to network elements to the extent that those elements are capable of being used by the requesting carrier in the provision of a telecommunications service. We note that, by using the terms "features, functions, and capabilities," the definition itself uses broad and expansive terminology in defining its scope. For example, the term "capability" is defined in Webster's New College Dictionary as "potential ability."[194] Limiting a requesting carrier's ability to obtain access only to facilities or equipment (and associated features, functions and capabilities) actually used in the provision of a telecommunications service would require a reading in tension with this definition.

60. With regard to the purposes of the Act, as mentioned above, section 251(d)(2) requires the Commission to consider whether the failure to provide access to a particular network element would impair the ability of a requesting telecommunications carrier "to provide the services that *it* seeks to offer."[195] To interpret the definition of "network element" so narrowly as to mean only facilities and equipment actually used by the incumbent LEC in the provision of a telecommunications service also would be at odds with the statutory language in section 251(d)(2) and the pro-competitive goals of the 1996 Act.[196] Such a finding would deny competitive LECs any certainty about the availability of a network element in a given market unless and until a determination was made about whether the incumbent LEC is actually using that network element in its provision of a telecommunications service in that market. Providing requesting carriers with access only to those facilities and equipment actually used by the incumbent LEC would also lead to such unreasonable results as preventing a spare loop that is capable of providing second-line service from being considered a "network element" if the customer were not purchasing service over that line from the incumbent LEC.[197] Finally, an

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[193] We look to the use by the requesting carrier as discussed below. *See infra* Part V.B.2.c (discussing our adopted service-specific approach).

[194] *See* WEBSTER'S II NEW RIVERSIDE UNIVERSITY DICTIONARY 226 (1994) (defining "capability" as "the quality or state of being capable; potential ability; the capacity to be used, treated, or developed for a particular purpose.").

[195] 47 U.S.C. § 251(d)(2)(B) (emphasis added).

[196] *See, e.g.*, Letter from David Lawson, Counsel for AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 12-13 (filed Dec. 23, 2002) (arguing that the manner in which an incumbent LEC chooses to use its facilities is irrelevant to competitive LECs' rights under section 251(c)(3)) (AT&T Dec. 23, 2002 Broadband *Ex Parte* Letter).

[197] *See* Letter from Praveen Goyal, Senior Counsel for Government & Regulatory Affairs, Covad, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 02-33 at 3 (filed Jan. 10, 2003) (Covad Jan. 10, 2003 *Ex Parte* Letter).

alternative reading of the statute would allow incumbent LECs to prevent competitors from making new and innovative uses of network elements simply because the incumbent LEC has not yet offered a given service to consumers. Such a result would stifle a competitor's ability to innovate and could hinder deployment of advanced telecommunications services.[198]

B. The Impairment Analysis

1. The "Impair" Standard

61. In this Part, we first describe the principles that the courts have instructed us to use in interpreting the "impair" standard. We explain what guidance we can derive from the language, structure, purposes, and history of the 1996 Act itself. We examine several legal doctrines and economic theories in related or analogous areas to see what guidance they may provide as we interpret the ambiguous "impair" standard. Finally, we explain our new interpretation of the "impair" standard, which draws on all these sources.

a. Court Decisions

62. Since 1996, the Commission has twice interpreted the "impair" standard, and twice the courts have remanded its interpretation as lacking the rigor intended by Congress. In its first attempt to interpret and apply the unbundling provisions of the 1996 Act, the Commission found, in section 251(c)(3), a "duty to provide all network elements for which it is technically feasible to provide access on an unbundled basis."[199] The Commission then found in section 251(d)(2) the "authority to refrain from requiring incumbent LECs to provide all network elements for which it is technically feasible to provide access on an unbundled basis."[200] In applying that "authority to refrain," the Commission interpreted "impair" to mean "'to make or cause to become worse; diminish in value,'"[201] meaning there is impairment if "the quality of service the entrant can offer, absent access to the required element, declines and/or the cost of providing the service rises."[202] In determining whether the cost would rise or the quality would decline, the Commission determined to examine whether using a different element within the incumbent LEC's network would alleviate the impairment.[203] The resulting list of UNEs was

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[198] Section 706, reproduced in the notes under section 157 of the Act, directs the Commission to encourage the deployment of advanced telecommunications capability to all Americans on a reasonable and timely basis. 47 U.S.C. § 157 nt. Additionally, as noted in the Joint Managers' Statement, the goals of the 1996 Act were to provide for a pro-competitive, deregulatory national framework "designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services to all Americans by opening all telecommunications markets to competition . . . ." Joint Managers' Statement, S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 113 (1996) (Joint Conference Report).

[199] *Local Competition Order*, 11 FCC Rcd at 15640, para. 278.

[200] *Id.* at 15641, para. 279.

[201] *Id.* at 15643, para. 285 (quoting RANDOM HOUSE COLLEGE DICTIONARY 665 (rev. ed. 1984)).

[202] *Id.*

extremely broad, encompassing everything from the NID to operator services and directory assistance.

63. The Supreme Court reviewed this interpretation in *Iowa Utilities Board* and concluded that the Commission's interpretation failed to comport with the Act, which "requires the FCC to apply *some* limiting standard, rationally related to the goals of the Act."[204] In particular, the Court faulted the agency for "assum[ing] that *any* increase in cost (or decrease in quality) imposed by denial of a network element . . . causes the failure to provide that element to 'impair' the entrant's ability to furnish its desired services,"[205] and for "blind[ing] itself to the availability of elements outside the incumbent's network."[206] Specifically with regard to costs, the Court noted that if competition were perfect and all market participants were providing service at marginal cost, "the Commission's total equating of increased cost (or decreased quality) with 'necessity' and 'impairment' might be reasonable," but such had not been shown to be the case.[207] The Court also rejected the notion that section 251(c)(3) imposes a general unbundling obligation, which the Commission has the authority to temper by making individual determinations of a lack of necessity or impairment under section 251(d)(2). Rather, the Act requires the Commission to justify unbundling elements, by applying the standards of section 251(d)(2).[208]

64. Justice Breyer concurred with the majority's handling of the "impair" standard, and added several specific concepts to elaborate on the Court's statement that the Commission must find "*some* limiting standard" in its interpretation of "impair."[209] Overall, Justice Breyer stated his belief that the Act calls for "balance" between unbundling's benefits to competition and its social and administrative costs.[210] On the one hand, Justice Breyer acknowledged that unbundling benefits competition by "seek[ing] to facilitate the introduction of competition where practical, *i.e.*, without inordinate waste."[211] On the other hand, Justice Breyer expressed his view that unbundling "can have significant administrative and social costs inconsistent with the Act's purposes."[212] Specifically, unbundling has administrative costs because two competitors are

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[203] *Id.*

[204] *Iowa Utils. Bd.*, 525 U.S. at 388 (emphasis in original).

[205] *Id.* at 389-90 (emphasis in original).

[206] *Id.* at 389.

[207] *Id.* at 390.

[208] *See id.* at 391-92.

[209] *See id.* at 427-31 (Breyer, J., concurring with regard to unbundling rules).

[210] *Id.* at 429-30 (Breyer, J., concurring).

[211] *Id.* at 428.

[212] *Id.*

sharing the same facility. Someone must manage that sharing, and that management costs something. Also, unbundling has social costs, Justice Breyer explained, in the diminished incentives of the facility owner to "keep up or improve the property," as it must share the benefits of those investments with its competitors.[213] Justice Breyer also expressed his view that the Act imposes limits on unbundling that are related to antitrust's essential facilities doctrine.[214]

65. In response to the Supreme Court's remand, the Commission interpreted the "impair" standard anew in the *UNE Remand Order*, attempting to take the Court's criticisms into account. The Commission concluded that:

> the failure to provide access to a network element would "impair" the ability of a requesting carrier to provide the services it seeks to offer if, taking into consideration the availability of alternative elements outside the incumbent's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element materially diminishes a requesting carrier's ability to provide the services it seeks to offer.[215]

In determining whether alternatives are in fact available, the Commission stated it would consider the factors of cost, timeliness, quality, ubiquity, and impact on network operations.[216] The resulting list of UNEs was narrower than the Commission's first list to the extent the Commission excluded some circuit switches, operator services, and directory assistance. The Commission did, however, extend unbundling requirements to dark fiber, subloops, and packet switches in some circumstances.

66. As explained above, shortly before the D.C. Circuit addressed the Commission's revised unbundling standards in *USTA*,[217] the Supreme Court issued its decision in *Verizon*[218] upholding the TELRIC pricing standard and the Commission's combinations rules. The *Verizon* Court placed special emphasis on the deference owed to the Commission's interpretation of the Act, noting that section 252(d)(1), which authorized the Commission to set "just and reasonable" UNE rates "based on the cost . . . of providing the . . . network element," left the Commission "ample discretion" in establishing a rate-setting methodology.[219] The Court's task was therefore

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[213] *Id.* at 428-29.

[214] *Id.* at 428.

[215] *UNE Remand Order*, 15 FCC Rcd at 3725, para. 51.

[216] *Id.* at 3731, para. 65; *see also supra* Part III.

[217] *USTA*, 290 F.3d at 415.

[218] *Verizon*, 535 U.S. at 467.

[219] *Id.* at 500; *see also id.* at 523 ("In short, the incumbents have failed to carry their burden of showing unreasonableness to defeat the deference due the Commission.").

not to determine whether TELRIC was the *ideal* pricing mechanism, but rather to evaluate whether the TELRIC methodology reflected a *reasonable* interpretation of the Act, given the leeway accorded the Commission.[220]

67. While *Verizon* addressed the section 252(d)(1) pricing standard rather than the section 251(d)(2) "impair" standard, the decision touched on issues related to our analysis here. However, consistent with the deference described above, the Court refrained from issuing particular policy mandates, confining its inquiry to the reasonableness of the Commission's chosen approach. For example, while the majority accepted as "plausibl[e]"[221] the Commission's arguments that TELRIC pricing would not stifle investment in new facilities, it did not purport to resolve the parties' disagreement on this score, and did not preclude later modification of the TELRIC rules or other aspects of the unbundling regime. Instead, the Court recognized that it was "in no position to assess the precise economic significance" of the parties' opposing arguments regarding incentives,[222] and that it "ha[d] no idea whether a different forward-looking pricing scheme would have generated even greater competitive investment than the $55 billion that the entrants claim."[223] Thus, it merely acknowledged that the Commission had been forced to decide whether it was "better to risk keeping more potential entrants out, or to induce them to compete in less capital-intensive facilities with lessened incentives to build their own bottleneck facilities,"[224] and found that in such circumstances, "[i]t was not obviously unreasonable for the FCC to prefer the latter."[225]

68. Days later in the *USTA* decision, the D.C. Circuit squarely addressed the *UNE Remand Order*'s interpretation of "impair" and found substantial faults with it.[226] First, the court

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[220] *See, e.g.*, *id.* at 523 ("TELRIC appears to be a reasonable policy for now, and that is all that counts.")

[221] *Id.* at 504.

[222] *Id.* at 507.

[223] *Id.* at 517.

[224] *Id.* at 510.

[225] *Id.* Thus, we disagree with commenters that suggest that *Verizon* mandates a particular result in this Order. While we acknowledge the Court's statement that the 1996 Act was meant "to reorganize markets by rendering regulated utilities' monopolies vulnerable to interlopers" and that its ratesetting mechanism is "designed to give aspiring competitors every possible incentive to enter local retail telephone markets," *id.* at 489, we adhere, as we must, to the Court's specific statement with regard to "necessary" and "impair" that the Commission must find "*some* limiting standard, rationally related to the goals of the Act." *Iowa Utils. Bd.* 525 U.S. at 388 (emphasis in original). *But see, e.g.*, Talk America Reply at 2-4; NuVox Reply at 3-4.

[226] *See generally USTA*, 290 F.3d at 415 (cert. denied after adoption of this Order but before release). Because the D.C. Circuit found substantial fault with the *UNE Remand Order* and because the *Triennial Review NPRM* asked sweeping questions about retooling the Commission's unbundling policies, we dismiss as moot the portion of the CompTel Nov. 26, 2001 Joint Conference Petition in which CompTel seeks a narrow review of the *UNE Remand Order* that would preclude parties from using this Triennial Review as a reconsideration proceeding. *See* Competitive Telecommunications Association Petition, CC Docket No. 96-98 (filed Nov. 26, 2001) (CompTel Nov. 26, 2001 Joint Conference Petition).

echoed the call Justice Breyer made in *Iowa Utilities Board* for "balance," stating that the Act contemplates some trade-offs between the pro-competition benefits of unbundling and the detriments of unbundling such as the disincentives to investment and the costs of managing shared facilities.[227] With regard to the Commission's treatment of cost disparities, the D.C. Circuit found that the Commission erred by considering as relevant "cost disparities that are universal as between new entrants and incumbents in *any* industry."[228] The D.C. Circuit also cautioned the Commission to consider the competitive landscape when making an unbundling determination, and not to exclude the participation of relevant intermodal competitors as a relevant factor in the analysis.[229] Finally, the D.C. Circuit noted that the essential facilities doctrine might "offer useful concepts for agency guidance" in interpreting the unbundling provisions of the 1996 Act, even if the Act does not require its use.[230]

b. Guidance from the Act and Its History

69. In this Part, we explain what we derive from the language, structure, purposes, and history of the "impair" standard and the 1996 Act as we attempt to interpret it in a manner that is faithful to its language, comports with Congress's intent, responds fully to the courts, and is economically rational. The "impair" language itself is ambiguous, and as one Justice has explained, this ambiguity reflects "congressional uncertainty about the extent to which compelled use of an incumbent's facilities will prove necessary to avoid waste."[231] Thus, it is up to the Commission to resolve the ambiguity of the "impair" standard.

70. We note that other language in the 1996 Act provides some clues as to Congress's intent. First, we look to the Preamble of the 1996 Act, which calls it "[a]n Act [t]o promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies."[232] We believe that this language gives the best snapshot of Congress's overall intent in enacting the 1996 Act. We reaffirm the conclusion in the UNE Remand Order that facilities-based competition serves the Act's overall goals.[233]

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[227] *USTA*, 290 F.3d at 425, 427.

[228] *Id.* at 427 (emphasis in *USTA*).

[229] *Id.* at 429-30.

[230] *Id.* at 428 & n.4 (*cert. denied* after adoption of this Order, but before release).

[231] *Iowa Utils. Bd.*, 525 U.S. at 428 (Breyer, J., concurring). Justice Breyer asks whether wireless or cable technologies might provide the local telephone competition for which Congress was striving, without the need for extensive unbundling of incumbent LECs' facilities. *Id.*

[232] *See* Preamble to the 1996 Act.

[233] *UNE Remand Order*, 15 FCC Rcd at 3704, para. 14; *see also, e.g.*, BellSouth Comments at 7; Progress & Freedom Foundation Comments at 5, 7-8; Progress & Freedom Foundation Reply at 3-4 (recognizing that markets can support a limited number of facilities-based competitors). Facilities-based competition better serves the goal of (continued….)

71. Specifically as to "impair," we note an important distinction that the Act makes, which provides us guidance on how to interpret this term. Section 251(d)(2) of the Act contains two different standards, "necessary" and "impair."[234] The "necessary" standard, which applies to proprietary elements, instructs the Commission to consider whether "access to such network elements as are proprietary in nature is *necessary*."[235] By contrast, the "impair" standard, which applies to non-proprietary elements, instructs the Commission to consider whether "the failure to provide access to such network elements would *impair* the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer."[236] In past orders, the Commission has interpreted the "necessary" standard as a more rigorous standard than the "impair" standard, and this construct has not been disturbed by the courts. We believe it is reasonable to continue to interpret the "impair" standard as less demanding than the "necessary" standard.[237] We believe this approach reflects Congress's intentions in creating two distinct standards for two classes of elements.

72. As we formulate our interpretation of "impair" that is less demanding than "necessary," however, we remain cognizant that Congress did not create a general duty to unbundle, tempered by the "impair" standard of section 251(d)(2). As the courts have explained, if Congress had wanted to create a general unbundling duty, it would not have included the "impair" standard in the Act at all.[238] Thus, we must interpret the "impair" standard as

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deregulation because it permits new entrants to rely less on incumbent LECs' facilities and on regulated terms for access and price. And it serves the goal of innovation because new facilities are more likely to have additional capabilities to provide new services to consumers and competitors' deployment of new facilities is likely to encourage incumbents to invest in their own networks. *See, e.g.*, Qwest Comments at 3; SBC Comments at 25-26; BellSouth Comments, Declaration of Howard A. Shelanski at paras. 7-9, 14-16 (BOC Shelanski Decl.) (also attached to SBC Comments and Verizon Comments); Qwest Farrell Reply Decl. at paras. 5-6. *But see, e.g.*, WorldCom Reply at 51. Facilities-based competition also increases the likelihood that new entrants will find and implement more efficient technologies, thus benefiting consumers. *See* BOC Shelanski Decl. at paras. 7-9. We thus disagree that duplication of facilities is necessarily "wasteful." We expect consumer benefits to follow from new entrants' investment in facilities, and where duplication is uneconomic, those facilities often will be unbundled pursuant to our analysis. *See, e.g.*, Verizon Reply at 24-27. Finally, facilities-based competition creates network redundancy, which increases reliability and enhances national security. *See* CompTel Comments at 78-79; SBC Comments at 26; USTA Comments at 5. Thus, we disagree with commenters that argue that the Act contains a "statutory mandate of equal treatment for all three options," although we are aware that Congress created an unbundling vehicle because complete duplication of the incumbent LECs' networks is not feasible. CompTel Comments at 9-12. *See generally, e.g.*, ASCENT Comments at 20-22; Utah Commission Reply at 2.

[234] 47 U.S.C. § 251(d)(2)(A), (B).

[235] *Id.* § 251(d)(2)(A) (emphasis added).

[236] *Id.* § 251(d)(2)(B) (emphasis added).

[237] *See, e.g.*, AT&T Reply at 35.

[238] *See Iowa Utils. Bd.*, 525 U.S. at 390 ("[I]f Congress had wanted to give blanket access to incumbents' networks on a basis as unrestricted as the scheme the Commission has come up with, it would not have included § 251(d)(2) in the statute at all.").

Congress's direction for us to make specific, affirmative findings that elements should or should not be unbundled.

c. Guidance from Analogous Legal Doctrines and Economic Literature

73. In this Part, we cull concepts from many years of scholarly work and debate in legal and economic fields that resemble our "impair" standard in some way. Some of these legal doctrines and economic theories, such as essential facilities and natural monopoly, were described in the *USTA* decision and Justice Breyer's concurring opinion in *Iowa Utilities Board* as providing guidance on the appropriate standard to adopt. Other doctrines and theories, such as the Horizontal Merger Guidelines (HMG) used in antitrust and the economic theories developed in the barriers to entry literature, were proffered by commenters as providing models for such a standard. While we discuss later why we do not adopt any single one of these doctrines or theories in toto as our standard, we find that the lessons learned from these legal doctrines and economic theories help us develop an impairment standard, and will also help us in our attempt to apply this standard in our analysis of specific network elements.

74. *Several Standards Are Possible For Defining Impairment.* While the Act provides no definition of "impair," there are a number of possible definitions available from the legal and economic literatures for determining when impairment exists. One approach is to use the economic concept of barriers to entry to examine whether competitors are prevented from entering a particular market.[239] They include definitions by Joe Bain (any factor preventing entry when incumbents are earning above average profits)[240] and George Stigler (any factor that creates a cost faced by new entrants but not by the incumbent).[241] The essential facilities doctrine

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[239] The Commission previously discussed barriers to entry in its section 257 report. *See generally Section 257 Proceeding To Identify and Eliminate Market Entry Barriers for Small Businesses*, GN Docket No. 96-113, Report, 12 FCC Rcd 16802 (1997) (*Section 257 Report*).

[240] Bain defined a barrier to entry as "the extent to which, in the long run, established firms can elevate their selling prices above minimal average costs of production and distribution . . . without inducing potential entrants to enter the industry." JOE S. BAIN, INDUSTRIAL ORGANIZATION 252 (2d ed. 1968); *see also* W. KIP VISCUSI, JOHN M. VERNON, & JOSEPH E. HARRINGTON, JR., ECONOMICS OF REGULATION AND ANTITRUST 156 (3d ed. 2000). Bain argued that barriers to entry typically fall into the categories of absolute cost advantages, scale economies, and product differentiation. *See* JOE BAIN, BARRIERS TO NEW COMPETITION 12-16 (reprint 1993).

[241] George Stigler defined a barrier to entry as "a cost of producing . . . which must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry." GEORGE STIGLER, THE ORGANIZATION OF INDUSTRY 67 (1968). His definition of barriers to entry is narrower than Bain's definition, excluding any factor that had to be met by incumbent and entrant alike. One interpretation is that the advantages gained by an incumbent due to entering the market first could be viewed as an appropriate reward to those who took the risk of making the first investment. *See* Jonathan B. Baker, *Responding to Developments in Economics and the Courts: Entry in the Merger Guidelines* at 4-5 (2002), <http://www.usdoj.gov/atr/hmerger/11252.pdf>. For example, the presence of scale economies alone would not be a barrier to entry under his definition, even if they were large enough to permit only one firm to occupy the market, because entrants would face the same cost structure as the incumbents, and could achieve the same average costs as the incumbents if they were able to attract the same number of customers. Likewise, he argued that capital requirements and advertising costs are not barriers to entry, if both incumbents and (continued….)

provides another construct for identifying when entry is hindered, focusing on whether a particular facility is needed for an entrant to serve the market.[242] In addition, the HMG attempt to determine whether entry will be "timely, likely, and sufficient" to deter incumbents from exercising market power.[243] As explained below, no one of these standards comports with the "impair" concept entirely. Indeed, these standards were developed for other purposes, and have been written about and discussed since long before the 1996 Act.

75. *Many Factors Can Act as Barriers to Entry*. Depending on the circumstances, barriers to entry can come from a variety of factors such as sunk costs,[244] scale economies,[245]

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entrants have the same obligation. *See* STIGLER, *supra*, at 67-70. More recently, Christian von Weizsacker proposed to restrict Stigler's definition to limitations to entry that create economic inefficiency. Thus, he would define a barrier to entry that may warrant regulatory intervention as costs borne by entrants and not by incumbents that distort the operation of the market in a socially undesirable way. *See* C.C. von Weizsacker, *A Welfare Analysis of Barriers to Entry*, 11 BELL J. ECON. 400 (1980). Stigler's more limited definition of barriers to entry, and his use of price theory to analyze whether various factors are likely to impede entry, fit in with the "Chicago School's" emphasis on the use of economic theory to determine whether firm behavior causes harm to consumers, its belief that there should be a more permissive merger policy, and its skepticism of the need for vigorous antitrust action to prohibit many commonplace practices such as tie-ins and resale price maintenance. *See* Baker, *supra*, at 5-6; Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925-34 (1979).

[242] Under the essential facilities doctrine, a firm controlling a facility deemed essential is required to share that facility with competitors at a reasonable price. *See* 3A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION, para. 771 (2001); Mats A. Bergman, *The Role of the Essential Facilities Doctrine*, 46 ANTITRUST BULL., Summer 2001, at 403. Although the Supreme Court has never explicitly adopted the essential facilities doctrine, it has determined that refusal to provide access to an essential facility to competitors can be an antitrust violation. *See* AREEDA & HOVENKAMP, *supra*, paras. 772-73; Phillip Areeda, *Essential Facilities: An Epithet in Need of Limiting Principles*, 58 ANTITRUST L.J. 841 (1989). To prove antitrust liability under the essential facilities doctrine, four conditions have been identified by circuit courts: (1) The facility is controlled by a monopolist; (2) Competing firms lack a reasonable ability to reproduce the facility; (3) Competing firms have been denied access to the facility; and (4) It is feasible to provide access to the facility. *See MCI Communications Co. v. American Tel. & Tel. Co.*, 708 F.2d 1081, 1132-33 (7th Cir. 1983); *see also* Bergman, *supra*, at 407-08; Robert Pitofsky, *The Essential Facilities Doctrine Under United States Antitrust Law*, 708 PLI/PAT 775, 781-82 (2002).

[243] The HMG were developed to embody economic theory in a set of guidelines for determining whether mergers would cause harm. As one of the steps of analysis, "the Agency assesses whether entry would be timely, likely, and sufficient either to deter or to counteract the competitive effects of concern." Horizontal Merger Guidelines, issued by U.S. Department of Justice and Federal Trade Commission, Apr. 2, 1992, revised Apr. 8, 1997 (HMG) § 0.2. Section 3 of the HMG, which examines the conditions under which committed entry (entry requiring significant sunk costs) will occur, is the most relevant to our analysis. HMG § 3.

Whether the Bainian or Stiglerian definition of barriers to entry should be used in the antitrust context has not been decided. Some authorities have adopted Bain's definition. *See* Baker, *supra* note 241, at 6 n.25. The Federal Trade Commission had decided that only Stiglerian barriers prevented entry that would eventually drive prices down to competitive levels. However, it also decided that a second type of barrier, an "impediment to entry," existed, which could delay entry into the market for a significant period of time. It thus effectively adopted a Bainian definition. *See* Baker, *supra* note 241, at 6-7.

[244] Sunk costs are those costs that are unrecoverable upon exit from the market. *See* DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 28 (3d ed. 2000). Scholars point out that when there

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scope economies,[246] absolute cost advantages,[247] capital requirements,[248] first-mover advantages,[249] strategic behavior by the incumbent,[250] product differentiation,[251] long-term

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are large fixed and sunk costs, fewer firms are able to profitably coexist in the industry. *See* Babu Nahata & Dennis Olson, *On the Definition of Barriers to Entry*, S. ECON. J. 236-39 (July 1989); JOHN SUTTON, SUNK COSTS AND MARKET STRUCTURE: PRICE COMPETITION, ADVERTISING, AND THE EVOLUTION OF CONCENTRATION (1991). Significant sunk costs by the incumbent can increase an entrant's concern that an incumbent will lower prices in the face of vigorous competition. In addition, large sunk costs can give a significant first-mover advantage to the incumbent. Other firms that are contemplating entry will realize that large-scale facilities-based entry on their part will create excess capacity and force prices down to marginal cost, leading to large losses. These firms are therefore unlikely to enter. *See Section 257 Report*, 12 FCC Rcd at 18614 n.48; *Merger of MCI Communications Corp. and British Telecommunications PLC*, GN Docket No. 96-245, Memorandum Opinion and Order, 12 FCC Rcd 15351, 15413, para. 162 (1997); *see also* JEAN TIROLE, THE THEORY OF INDUSTRIAL ORGANIZATION 314-21 (1988); CARLTON & PERLOFF, *supra*, at 79-80. High sunk costs also increase the cost of failure to an entrant. Thus, if there is a substantial risk that entry will not be successful for various reasons, including uncertainty concerning demand for the firm's product and the firm's operational ability to enter the market and achieve profitability, then the presence of large sunk costs could raise the cost of failure and exit sufficiently to deter entry. DOUGLAS F. GREER, INDUSTRIAL ORGANIZATION AND PUBLIC POLICY 240 (3d ed. 1992). This risk could also be reflected in a higher cost of capital to entrants, thus discouraging entry into industries which are inherently risky. *See* VISCUSI, VERNON, & HARRINGTON, *supra* note 240, at 161; HMG § 3.3.

[245] Scale economies refer to lower average costs from producing a larger quantity of output. A more technical definition is that economies of scale exist at a particular range of output when the long run average total cost decreases as output expands. *See* KENNETH TRAIN, OPTIMAL REGULATION 5 (1991). Scale economies can be a barrier to entry if entrants are likely to acquire fewer customers and sell less output than the incumbent, and the resulting higher average cost for the entrants makes it difficult for them to compete with the incumbent, particularly if retail prices are close to the incumbent's average cost.

[246] Economies of scope exist when one firm can produce two or more products at a lower total cost than if each product were produced separately by different firms. *See* TRAIN, *supra* note 245, at 8. Scope economies can be a barrier to entry if entrants are unable to produce and sell all of the products the incumbent produces, and the resulting higher cost makes it unprofitable to enter the market. *See* SCHERER & ROSS, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 361 (3d ed. 1990).

[247] An incumbent has an absolute cost advantage if, for any given level of output, its per unit costs are lower than for an entrant. Possible sources of absolute cost advantages include privileged access to resources, control of a better technology or more efficient means of production which cannot be duplicated by the entrant, limitations in the availability of productive factors, the learning curve, and a lower cost of capital. *See* BAIN, BARRIERS TO NEW COMPETITION, *supra* note 240, at 144-45; GREER, *supra* note 244, at 241-42; VISCUSI, VERNON, & HARRINGTON, *supra* note 240, at 156; DON E. WALDMAN & ELIZABETH J. JENSEN, INDUSTRIAL ORGANIZATION: THEORY AND PRACTICE 139-41 (2d ed. 2001).

[248] Some argue that entrants, especially small entrants, are at a disadvantage to incumbents in raising large amounts of capital. Three possible reasons given are that entrants are a riskier investment, small entrants face higher transaction costs to raise funds, and the capital market is imperfect such that large firms have more market power to obtain loans at favorable rates. *See* GREER, *supra* note 244, at 256-57; WALDMAN & JENSEN, *supra* note 247, at 141-43.

[249] When a firm is able to gain an advantage in the marketplace as a result of entering the market first, it is said to have a first-mover advantage. There are a number of sources of first-mover advantages, such as advertising and gaining brand name preference, patents, sunk costs, and rights-of-way. *See* GREER, *supra* note 244, at 264-65; CARLTON & PERLOFF, *supra* note 244, at 80.

contracts,[252] and network externalities.[253] Despite the different definitions that have been proposed, economists, since the advent of economic game theory, have developed a better understanding of the factors that impede entry.[254] There is general agreement in the economics literature on the critical importance of sunk costs, absolute cost advantages, first-mover advantages, and, in the right circumstances, scale economies, in determining the likelihood of entry.[255] In their analysis of entry, the HMG consider economic barriers to entry, focusing in particular on sunk costs and minimum viable scale (in addition to other factors).[256]

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[250] Strategic behavior refers to actions by an incumbent that prevent entry from occurring. Game theory is now often used to model the behavior of incumbents and entrants, and determine the equilibrium set of strategies. Under certain circumstances, an incumbent could deter entry if it invested in additional capacity today, such that it would be likely to lower prices when entry occurs, creating losses for everyone. Such behavior is rational only if the incumbent expects that an entrant is likely to be deterred from entry as a result. *See* OZ SHY, INDUSTRIAL ORGANIZATION 186-206 (1995); TIROLE, *supra* note 244, at 314-21; Baker, *supra* note 241, at 7-9.

[251] Product differentiation refers to firms' attempts to distinguish their products from other firms' products and gain the ability to raise the price through advertising, the development of a brand name and product image, varying the product characteristics and quality, and selling in different locations. *See* WALDMAN & JENSEN, *supra* note 247, at 357 ("The objective of product differentiation is to increase profits by increasing demand and decreasing the price elasticity of demand. Sellers attempt to differentiate their products in many ways. Common forms of differentiation include location, service, physical characteristics, and subjective image differences."); *see also* BAIN, INDUSTRIAL ORGANIZATION, *supra* note 240, at 29-30.

[252] An incumbent monopolist can induce customers to sign long-term contracts, with substantial penalties for breaching the contract. These contracts can act as a barrier to entry, if they prevent customers from switching to an entrant. *See* Philippe Aghion & Patrick Bolton, *Contracts As a Barrier to Entry*, 77 AM. ECON. REV. 388-401 (1987); TIROLE, *supra* note 244, at 196-98; HMG § 3.3.

[253] Network externalities (or network effects) exist if the benefit that a consumer derives from purchasing a good is affected by whether others take the same service. Consumers then derive greater benefit from purchasing services from larger networks. Thus, larger networks gain a competitive advantage over small networks, which allows them to charge higher prices. *See* J. Farrell & G. Saloner, *Standardization, Compatibility, and Innovation*, 16 RAND. J. ECON. 70-83 (1985); M. Katz & C. Shapiro, *Network Externalities, Competition and Compatibility*, 75 AM. ECON. REV. 424-40 (1985); OZ SHY, THE ECONOMICS OF NETWORK INDUSTRIES 17 (2001). In telecommunications networks, network externalities refer to the greater value of a network in which all users can communicate with all other users.

[254] *See, e.g.*, Richard J. Gilbert, *Mobility Barriers and the Value of Incumbency*, in 1 HANDBOOK OF INDUSTRIAL ORGANIZATION 475 (Richard Schmalensee & Robert Willig, eds. 1989).

[255] *See* SHY, INDUSTRIAL ORGANIZATION, *supra* note 250, at 182-206; Gilbert, *supra* note 254, at 531; Baker, *supra* note 241, at 7-16; *see also* AT&T Reply, Declaration of Robert D. Willig (AT&T Willig Reply Decl.) at paras. 18-36.

[256] *See* HMG §§ 1.32, 3.3. Minimum viable scale is defined in the HMG as "the smallest average annual level of sales that the committed entrant must persistently achieve for profitability at premerger prices. Minimum viable scale is a function of expected revenues, based upon premerger prices, and all categories of costs associated with the entry alternative, including an appropriate rate of return on invested capital given that entry could fail and sunk costs, if any, will be lost." HMG § 3.3 (footnotes omitted). Scale economies are factored into the HMG's analysis through their impact on the minimum viable scale necessary for entry. Large scale economies are likely to create a (continued….)

76. *Some Factors Only Cause Barriers to Entry in Particular Circumstances*. While many factors can cause barriers to entry, the economics literature points out that some are only barriers in particular circumstances, or in combination with other factors. For example, some scholars only consider capital requirements a barrier in the presence of substantial sunk costs, first-mover advantages, or risky entry.[257] Likewise, some consider scale economies a barrier only if they are large enough to prevent additional firms from profitably entering the industry, and they are combined with other factors such as significant sunk costs, long-term contracts or brand preference by consumers.[258] The HMG consider scale economies to be a barrier to entry only if the minimum viable scale is larger than the sales an entrant is likely to achieve. Many scholars consider scale economies that are so pervasive as to make it less expensive for one firm to satisfy all demand within a market to be a formidable barrier to entry – a natural monopoly.[259]

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large minimum viable scale, because it will likely require a large volume of output and sales to achieve an average cost lower than the expected price. *See* HMG § 3.3, n.31 ("The minimum viable scale of an entry alternative will be relatively large when the fixed costs of entry are large, when the fixed costs of entry are largely sunk, when the marginal costs of production are high at low levels of output, and when a plant is underutilized for a long time because of delays in achieving market acceptance."); *see also* Letter from C. Frederick Beckner, III, Counsel for AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 1-8 (filed Nov. 14, 2002) (AT&T Nov. 14, 2002 *Ex Parte* Letter).

[257] Whether the cost of capital to entrants, particularly when large amounts of capital are needed, can be a barrier to entry has been controversial. Some argue that capital markets are imperfect, such that entrants – *e.g.*, small competitive LECs – would have poorer access to financial resources than incumbents. *See* BAIN, BARRIERS TO NEW COMPETITION, *supra* note 240, at 55; GREER, *supra* note 244, at 256-57; WALDMAN & JENSEN, *supra* note 247, at 141-43. Others argue that both incumbent and entrant have an equal need to spend money to build plant, or to create a brand name. Only in the presence of a significant risk of failure by the entrant, not shared by the incumbent, will the entrant's higher cost of capital, due to the need for a risk premium, create a cost disadvantage for the entrant. *See* Richard A. Posner, *supra* note 241, at 945-46; VISCUSI, VERNON, & HARRINGTON, *supra* note 240, at 161.

[258] The importance of scale economies has been controversial. While Bain considered them a barrier to entry, Stigler argued that the existence of scale economies alone could not be a barrier to entry, since incumbents and entrants would face the same costs. *See* STIGLER, *supra* note 241, at 67-69. Subsequent writers have suggested that entry is still possible in the face of scale economies when an entrant could, through contracts with the majority of the customers, gain the advantage from scale economies. For example, studies have shown that there are scale economies for garbage collection in smaller municipalities. Many municipalities put up the contract for bid, thus allowing entry, because whoever gains the contracts wins the whole market. *See* CARLTON & PERLOFF, *supra* note 244, at 76, 658.

[259] A natural monopoly exists "when the costs of production are such that it is less expensive for market demand to be met with one firm than with more than one." TRAIN, *supra* note 245, at 1. For the single product firm, this situation occurs in the presence of economies of scale over the entire range of output demanded. TRAIN, *supra* note 245, at 5; 2 ALFRED E. KAHN, THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS 119 (1989). For the multiproduct firm, a natural monopoly occurs when the cost of production for the entire set of products would be minimized if produced by one firm, *i.e.*, costs are subadditive for all relevant ranges of output for all products. Cost subadditivity is said to exist at a particular level of output for a particular set of products when one firm can produce all of those products at that level of output at a lower cost than two or more firms. WILLIAM SHARKEY, THE THEORY OF NATURAL MONOPOLY 2 (1982). This occurs if there are both economies of scale and economies of (continued….)

77. *A Firm's Ability To Enter Is Affected by the Costs Incurred, Revenues Obtained, and Risk Involved in Entering a Market.* The economics literature generally states that a firm's decision to enter a market depends on whether the revenues it expects to obtain exceed the costs of entering and serving the market, factoring in the cost and risk of failure.[260] Thus, factors that raise an entrant's cost of service, limit its potential revenues,[261] or increase the risk or cost of failure reduce the likelihood of entry. Conversely, entry is made easier if an entrant has late-mover advantages, such as from using newer technologies or a better network architecture, or has additional revenue opportunities stemming from economies of scope. Operational barriers, which may not directly affect the long-term potential costs and revenues of the firm but could significantly delay or reduce the quality of the services an entrant is attempting to offer, must also be taken into consideration in determining the likelihood and extent of entry. In general, it is important to consider all of the relevant cost and demand characteristics of a market, including the presence and size of sunk costs, scale and scope economies, and absolute cost and first-mover advantages, as well as the full range of revenues available and countervailing late-mover advantages an entrant might possess, in determining whether entry is possible.[262]

78. *Need for Requirements To Be Economically Rational*. Many scholars and the federal courts have taken the view that the application of antitrust enforcement (including merger review and the essential facilities doctrine) is only necessary when the merger or behavior causes economic harm to consumers and society. That is, the antitrust law has been interpreted to include an element of economic rationality despite a lack of explicit language requiring such analysis in the statute.[263] Especially in light of guidance from courts that have already considered the Act's unbundling regime, we believe that any reasonable application of the impairment standard and unbundling requirements should be economically rational.[264]

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scope for all products. When a natural monopoly exists, economic theory has traditionally held that it would be inefficient to have more than one firm in the market. SHARKEY, *supra*, at 54; 2 KAHN, *supra*, at ch. 4.

[260] Stated in more technical terms, the condition is whether the net present value of the expected economic profit is positive. *See* WALDMAN & JENSEN, *supra* note 247, at 146 ("Microeconomic theory predicts that profit-maximizing firms will enter an industry if the net present value of expected profits, appropriately adjusted for risk, is positive."). Economists define "economic profit" to be the firm's revenues minus the full cost (including opportunity costs of the assets employed) of the firm. The opportunity cost of an asset is the value of its best alternative use. *See* CARLTON & PERLOFF, *supra* note 244, at 239; *see also* STEPHEN MARTIN, INDUSTRIAL ECONOMICS: ECONOMIC ANALYSIS AND PUBLIC POLICY 17 (2d ed. 1994) ("Economic profit is any accounting profit over and above the normal rate of return on an investment.").

[261] HMG § 3.3.

[262] *See* STIGLER, *supra* note 241, at 67-70; BAIN, INDUSTRIAL ORGANIZATION, *supra* note 240, at 268-69; *see also* HMG § 3.1.

[263] *See* CARLTON & PERLOFF, *supra* note 244, at 604; VISCUSI, VERNON & HARRINGTON, *supra* note 240, at 66-67; ROBERT H. BORK, THE ANTITRUST PARADOX 89 (1978).

[264] *See Iowa Utils. Bd.*, 525 U.S. at 427-31 (Breyer, J., concurring); *USTA*, 290 F.3d at 425-30.

79. *Unbundling of Bottleneck Facilities Can Cause Harms*. Scholars have pointed out that there may be countervailing reasons why the owner of a bottleneck facility should not be required to make the facility available to its potential competitors. For example, some scholars argue that if providing access to the facility would not enhance competition or provide economic benefits, courts should consider not making the facility available. Similarly, if making the facility available would deter desirable activity on the part of the owner (such as investment in upgrades or new facilities) or the entrant (such as investment in alternatives), courts should consider not making the facility available.[265]

80. *The Size of Sunk Costs Is a Significant Factor in Determining the Likelihood That Competitors Will Enter.* Sunk costs are important for several reasons. Larger fixed[266] and sunk costs imply that fewer firms are able to survive profitably in the industry.[267] When combined with scale economies, high sunk costs increase the entrants' concern that the incumbent will lower its prices in response to entry, possibly to unprofitable levels for both incumbents and entrants. Large sunk costs also increase the cost of failure, so if there is a substantial risk of failure, entrants may be reluctant to take the risk, and investors may be reluctant to finance

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[265] *See, e.g.*, Areeda, *supra* note 242, at 841; David J. Gerber, *Rethinking the Monopolist's Duty To Deal: A Legal and Economic Critique of the Doctrine of "Essential Facilities,"* 74 VA. L REV. 1069 (1988); *see also* Qwest Comments, Attach., John Haring & Harry M. Shooshan, *Reorienting Regulation: Toward a More Facilities-Friendly Local Competition Policy* at 10-11 (Apr. 3, 2002) (Qwest Haring & Shooshan Paper); SBC Comments at 26 (citing PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW para. 787c (Supp. 2001)); Verizon Comments at 27-32, 34-36. In his *Epithet* article, Areeda argued that a requirement to provide access should not be imposed if: the denial of access was for a legitimate business purpose or for legitimate business reasons; it is administratively impractical for the court to supervise; it does not enhance competition in the marketplace and provide economic benefits; or if it would deter desirable activity on the part of the owner. *See* Areeda, *supra* note 242, at 852-53. Areeda provided six principles for limiting application of the essential facilities doctrine: (1) There is no general duty to share – compulsory access should be exceptional; (2) The facility should be considered essential only if it is critical for the plaintiff's ability to compete and for the development of competition in the market; (3) Providing access must be likely to improve competition substantially in the marketplace, provide economic benefits, and not chill desirable activity; (4) Denial of access must not have occurred for a legitimate business purpose; (5) The monopolist intended to exclude others by improper means; and (6) The court must be able to adequately explain and supervise the access requirement. Areeda, *supra* note 242, at 852-53; Bergman, *supra* note 242, at 409-10; *see also* BOC Shelanski Decl. at para. 38.

Gerber argued that the essential facilities doctrine should be applied only when it improves consumer welfare, and that the focus should be on the vertical relationship between the monopolist and the downstream market. He believes that the test used by most courts, that a facility is essential when its owner's refusal to provide access harms the ability of its competitors to compete, is inappropriate and fails to maximize consumer welfare. *See* Gerber, *supra*, at 1069-72. Areeda and Hovenkamp note that once a court determines to mandate access, a price that is set at the competitive level will reduce competitors' incentives to build alternative facilities, if and when this becomes feasible. *See* AREEDA & HOVENKAMP, *supra* note 242, para. 771b.

[266] Fixed costs are costs that do not vary with the level of output. *See* CARLTON & PERLOFF, *supra* note 244, at 28.

[267] *See* Nahata & Olson, *supra* note 244, at 236-23; SUTTON, *supra* note 244, at 8-11 and ch. 2.

entry.[268] The size of the sunk costs figures prominently in the HMG, with special analysis reserved for "committed entry," which is entry requiring significant sunk costs.[269]

81. *Costs Incurred To Enter a Market May Not Be a Barrier to Entry*. A cost incurred by an entrant upon entry, even if fairly significant, may not be a barrier to entry if it creates no cost disadvantage relative to the incumbent, does not generate a minimum viable scale that is too large for the entrant to achieve, and does not significantly raise the cost of failure and exit. Thus, to determine whether initial entry costs are a likely deterrent to entry, the economics literature considers, among other things: whether the incumbent had to incur the same costs; how large the costs are; whether the costs are sunk; the likelihood of success in entry; and the size of the scale economies and the likely share of the markets entrants can expect to take. Entrants are unlikely to be deterred by smaller, transient entry costs that are recoverable and that do not raise the minimum viable scale above the typical market share they can expect.[270]

82. *Some Barriers to Entry Are Not Harmful*. Not all barriers to entry are harmful to competition or consumers. Some barriers are the result of firms' attempts to develop new technologies and improve their efficiencies, and the barriers provide the appropriate reward for their innovative activity.[271] For example, patent protection is a powerful barrier to entry that denies new entrants the legal right to take advantage of the patent holder's research. But patent protection provides an incentive to invest in research that would otherwise be diminished if the innovator did not expect to reap monopoly profits from the innovation, at least for a period of time.[272]

83. *Incumbents' Behavior Can Influence Whether Entrants Will Want To Enter.* The extensive literature on strategic behavior and deterrence examines how incumbents, through present and future actions, could prevent entry.[273] For example, in assessing whether incumbents can profit from a price rise, the HMG do not assume that retail prices will remain elevated after

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[268] *See* HMG § 3.3.

[269] The HMG distinguish between uncommitted and committed entrants. Firms that are able to respond to a "small but significant and nontransitory" price increase within one year and with no significant sunk costs of entry and exit are considered uncommitted entrants, and treated as participants in the relevant market. HMG § 1.32. Committed entry requires significant sunk costs of entry and exit. A significant sunk cost is one that would not be recouped within one year of the commencement of the supply response, assuming a "small but significant and nontransitory" price increase in the relevant market. *Id.*

[270] GREER, *supra* note 244, at 241-46; STIGLER, *supra* note 241, at 67-70.

[271] The idea that barriers to entry and high market concentration are not always a concern to be combated with antitrust enforcement is an important point stressed by Stigler, Posner, and others in the "Chicago School." *See* VISCUSI, VERNON, & HARRINGTON, *supra* note 240, at 156; Weizsacker, *supra* note 241, at 399-400; Baker, *supra* note 241, at 5-6. *See generally* Posner, *supra* note 241.

[272] *See* CARLTON & PERLOFF, *supra* note 244, at 505-13; Qwest Haring & Shooshan Paper at 8-9.

[273] *See* SHY, INDUSTRIAL ORGANIZATION, *supra* note 250, at 186-206; TIROLE, *supra* note 244, at 314-21; GREER, *supra* note 244, at 305.

entry occurs, but rather take into account the possibility that incumbents will lower prices in response to entry, thus making the entry less rewarding for new competitors.[274]

d. Interpretation of the "Impair" Standard

84. We find a requesting carrier to be impaired when lack of access to an incumbent LEC network element poses a barrier or barriers to entry, including operational and economic barriers, that are likely to make entry into a market uneconomic. That is, we ask whether all potential revenues from entering a market exceed the costs of entry, taking into consideration any countervailing advantages that a new entrant may have. As explained in detail below, this granular analysis is informed by consideration of the relevant barriers to entry, as well as a careful examination of the evidence, especially marketplace evidence showing whether entry has already occurred in particular geographic and customer markets without reliance on the incumbent LECs' networks but instead through self-provisioning or reliance on third-party sources.[275]

(i) Types of Barriers to Entry

85. As suggested by the summary of economic and legal literature above,[276] there are different kinds of barriers to entry. We describe in this subpart which barriers we consider relevant to the impairment analysis. We also examine whether unbundling can address the impairment caused by these barriers. We focus on the barriers described below because we find that they are the most likely to create "impairment," that there is general recognition of the importance of these barriers in the economics literature described above and the HMG, and that they comport with our understanding of the characteristics of the telecommunications industry. We recognize, as did the *USTA* court, that at bottom all these barriers can be expressed in terms of costs, and thus to the extent described throughout this section, cost differences remain relevant

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[274] *See* HMG § 3.3.

[275] *See* Qwest Comments at 11 ("But, of course, there is no universal, magic formula by which the Commission or anyone else can assign weights to various factors and arrive at the answer as to whether a particular element meets the 'impair' standard and should be unbundled. The basic question is whether CLECs can feasibly provide service and meaningfully compete without access to a particular type of facility."); BellSouth Reply at 12-13 ("Once the UNE market is properly defined, impairment should be tested by asking whether a reasonably efficient CLEC retains the ability to compete even without access to the UNE."); BellSouth Reply, Attach. 2, Declaration of Howard A. Shelanski, at para. 2 (BOC Shelanski Reply Decl.) (also attached to SBC Reply and Verizon Reply) ("As an economic matter, impairment must at the very least mean that CLECs suffer some disadvantages relative to the ILEC that are sufficiently great that they could tip to the negative a rational CLEC's decision about whether or not to enter a local exchange market."); Letter from William P. Barr, Executive Vice President and General Counsel, Verizon, to Michael K. Powell, Chairman, FCC, CC Docket No. 01-338 at 3 (filed Oct. 16, 2002) (Verizon Oct. 16, 2002 *Ex Parte* Letter) ("The key to the impairment analysis therefore is whether an entrant can, over time using its own facilities, profitably serve less than the entire market."); Letter from James C. Smith, Senior Vice President, SBC, to Michael K. Powell, Chairman, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. 1 at 5 (SBC Jan. 14, 2003 *Ex Parte* Letter).

[276] *See supra* Part V.B.1.c.

to the impairment analysis.[277] Throughout our application of the impairment standard to individual elements, we ask whether the sum of these barriers is likely to make entry uneconomic, taking into account available revenues and any countervailing advantages that a requesting carrier may have.[278] Our analysis does not rest solely on the existence of cost disparities, but instead is based on determining whether entry would be profitable without the UNE in question. Therefore, the existence of cost disparities does not necessarily require a finding of impairment, but it can significantly affect our analysis through its impact on an entrant's ability to enter.[279]

86. Before discussing relevant barriers to entry, however, we note that the telecommunications industry is replete with the kinds of barriers described in the economics discussion above. For example, facilities-based entry into the telecommunications market requires a great deal of capital for equipment, network construction, and operating costs while customers are gradually added to an entrant's network.[280] The capital requirements are exacerbated by the length of time – months or years – that it can take before investments start to turn a profit owing to the pace of construction, the difficulties of luring customers away from incumbent LECs, and the need to invest in a great deal of equipment before serving the first

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[277] *See USTA*, 290 F.3d at 426 ("Of course any cognizable competitive 'impairment' would necessarily be traceable to some kind of disparity in cost."); *see also, e.g.*, WorldCom Reply at 13; Letter from Ruth Milkman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 2 (filed Oct. 23, 2002) (WorldCom Oct. 23, 2002 *Ex Parte* Letter).

[278] *See, e.g.*, Verizon Oct. 16, 2002 *Ex Parte* Letter at 5 (urging the Commission to take into account any countervailing advantages, such as being able to sell other services, avoid costs, achieve qualitative advantages unavailable to the incumbent LEC, cherry-pick profitable customers or markets, and use more efficient equipment and network architectures); *see also* BellSouth Comments at 25; Verizon Comments at 58; BellSouth Reply at 10; Verizon Reply at 42-43; WorldCom Reply at 18-19 (noting that any competitive LEC advantages are outweighed by disadvantages); BellSouth Reply, Reply Declaration of National Economic Research Associates, Inc. (NERA Reply Decl.) at paras. 70-74; BOC Shelanski Reply Decl. at para. 3 (noting that new entrants may have advantages of more advanced equipment, lower labor costs, and the ability to serve larger areas or to market selectively to more attractive markets). We recognize that a precise calculation of a competitive LEC's advantage is difficult or impossible, but we attempt to make reasonable deductions through our examination of marketplace and other evidence. *See* AT&T Willig Reply Decl. at para. 57.

[279] *See also infra* para. 112.

[280] While we acknowledge that the telecommunications industry is capital-intensive, we will not base our impairment analysis on competitors' current ability to access capital markets, as suggested by some commenters. *See* CompTel Comments at 65-71; Covad Comments at 15-16; CompTel Reply at 6; *see also* Allegiance Reply at 3, 14-18. *But see* Verizon Reply at 135-36; BellSouth NERA Reply Decl. at para. 74. We recognize that today's market conditions make access to capital more difficult – and thus self-provisioning more difficult – than it may have been several years ago. But because the markets can change quickly, an impairment analysis that hung on the current state of the capital markets, and in particular on short-term fluctuations in access to capital, would either result in our rules quickly becoming out-of-date, or require frequent review that would contribute to market uncertainty. However, as part of the analysis to determine whether entry is economic, we recognize that a relevant factor is the cost of capital to competitors. Our impairment analysis will therefore consider the current and likely prospective cost of capital, based on our expectations of the availability and price of capital in the long-run.

customer.[281] The kinds of equipment needed to provide that service also pose barriers in the form of very high fixed costs, many of which are sunk. While switches and other "intelligence" equipment can be moved from place to place, construction of wireline transmission facilities is literally "sunk" – once invested in, it cannot be moved, even if customer demand patterns change. In addition, producing telecommunications services requires very substantial economies of scale and scope. With these facts in mind, we explain how we will analyze barriers to entry in the telecommunications market – including scale economies, sunk costs, first-mover advantages, and absolute cost advantages – and we explain our approach to unbundling as a means of overcoming certain barriers to entry.

87. *Scale Economies.* Scale economies, particularly when combined with sunk costs and first-mover advantages (described just below), can pose a powerful barrier to entry.[282] If entrants are likely to achieve substantially smaller levels of sales than the incumbent, then with scale economies their average costs will be higher than those of the incumbent, putting them at a potentially significant cost disadvantage to the incumbent. Profitable entry may not be possible if retail prices are close to the incumbent's average costs. The greater the extent and size of the scale economies throughout the range of likely demand, the higher the barrier they pose.[283] By

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[281] *See, e.g.*, BTI Comments at 9 (noting that competitive LECs must amass a customer base before attracting private equity); Illuminet Comments at 8 (pointing out that "[t]he construction and operation of a stand-alone SS7 signaling system and the data bases necessary for provision of many services is a complex and very capital intensive undertaking which may serve as a barrier to entry for smaller firms.").

[282] *See* AT&T Reply at 38; AT&T Willig Reply Decl. at para. 19; BellSouth NERA Reply Decl. at para. 75 (urging the Commission not to unbundle all elements because of the possibility of scale economies posing a barrier); Qwest Reply at 9-10; Qwest Farrell Reply Decl. at para. 12 ("If an element displays only ordinary economies of scale, the Commission should not require its unbundling unless that element also exhibits certain *additional* features that (perhaps in conjunction with the scale economies) create true entry barriers . . . . Such features might include large sunk costs relative to recurring costs, low rates of innovation, and high costs relative to complements (other network elements)."); Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene Dortch, Secretary, FCC, CC Docket No. 01-338, Attach. at 2, 4 (filed Jan. 10, 2003) (AT&T Jan. 10, 2003 *Ex Parte* Letter); *see also* WorldCom Reply at 14-15 (noting that incumbent LECs derive significant and relevant cost advantages from their economies of scale).

[283] *See supra* note 259. Scale economies are necessarily more of a hurdle for small competitive LECs, which tend to serve fewer customers.

We recognize, as did the *USTA* court, that if scale economies are present over the entire relevant market, the element may be "one for which multiple, competitive supply is unsuitable," such that unbundling could be appropriate to avoid wasteful duplication of the facility. *See USTA*, 290 F.3d at 427 (citing 2 KAHN, *supra* note 259, at 119); *see also, e.g.*, Mpower Reply at 11 (arguing that competitive LECs should not have to replicate the incumbent LECs' networks unnecessarily). We do not agree that *USTA* requires us to limit unbundling to those situations only where an element is wholly "unsuitable for competitive supply." *See, e.g.*, Qwest Reply at 9 (quoting *USTA*, 290 F.3d at 427). Rather, *USTA* urges us to consider the cost characteristics of elements and ensure that we do not mistakenly equate just any cost disparity with impairment. *See USTA*, 290 F.3d at 427 ("[C]ost comparisons of the sort made by the Commission [in the *UNE Remand Order*], largely devoid of any interest in whether the cost characteristics of an 'element' render it at all unsuitable for competitive supply, seem unlikely either to achieve the balance called for explicitly by Justice Breyer or implicitly by the [Supreme] Court as a whole [in *Iowa Utils. Bd.*] in its disparagement of the Commission's readiness to find '*any*' cost disparity reason enough to order unbundling.") (emphasis in *USTA*).

contrast, scale economies are less of a barrier to entry if average costs reach a low point or begin to increase at some level of production less than total market demand, particularly if that level of production is one that a new firm can reasonably expect to achieve.[284] Thus, we will not find scale economies that typically exist for any entrant into any industry to pose a barrier, when they have not typically blocked such entry.[285] Indeed, the HMG ask whether a new entrant can achieve the minimum viable scale (*i.e.*, the lowest output at which entry is profitable), and thus recognize that scale economies that typically exist for any entrant into any industry do not pose a barrier, when they have not typically blocked entry.[286] In sum, we will consider whether the cost differences caused by scale economies are sufficiently large and persistent, alone or in combination with other factors, to be likely to make entry uneconomic. For similar reasons, we also examine scope economies to determine whether they, too, could contribute to a barrier to entry.

88. *Sunk Costs*. Sunk costs, particularly when combined with scale economies, can pose a formidable barrier to entry.[287] Sunk costs increase risk as well as an entrant's cost of failure, which in turn can increase the cost of capital and discourage entry.[288] In addition, an entrant that knows that an incumbent LEC has incurred substantial sunk costs may be disinclined to enter a market because the incumbent LEC is likely to drop its prices, possibly to levels below

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[284] The lowest output at which average costs reach their minimum (if it exists) is called the Minimum Efficient Scale. *See* CARLTON & PERLOFF, *supra* note 244, at 41.

[285] Similar to our analysis, the *USTA* court noted that "average unit costs are necessarily higher at the outset for any new entrant into virtually any business," *USTA*, 290 F.3d at 427, so scale economies (and cost differences in general) that pertain just to the beginning stages of entry might not be an appropriate factor in an unbundling analysis. *See also* Verizon Oct. 16, 2002 *Ex Parte* Letter at 3 ("A transient cost disparity resulting from differences in scale does not meet the standard for unbundling established by the Act."); *see also* Verizon Comments at 57-58 (arguing that new entrants in any industry routinely lose money for an initial period); AT&T Reply at 32-34, 37 (urging the Commission to find that cost differences and scale economies are relevant so long as they are not "universal" cost disparities, and to find that unbundling does not depend on an element being a natural monopoly); Qwest Reply at 9; SBC Reply at 46; Verizon Reply at 39-40; WorldCom Reply at 14; BOC Shelanski Reply Decl. at para. 2 ("Impairment must consist of more than the usual challenge of playing catch-up that any new entrant into a mature industry faces."), para. 3; Qwest Farrell Reply Decl. at paras. 9-12.

[286] *See supra* note 256; *see also* HMG § 3.3; AT&T Nov. 14, 2002 *Ex Parte* Letter, Attach. at 4-7.

[287] *See, e.g.*, AT&T Reply at 38-39; WorldCom Reply at 14-17; AT&T Willig Reply Decl. at para. 20 ("It is basic economics that the need to incur significant sunk costs to deploy facilities that have substantial scale economies establishes a significant entry barrier."), paras. 21-22; AT&T Jan. 10, 2003 *Ex Parte* Letter, Attach. at 4. *Cf.* BOC Shelanski Reply Decl. at para. 4 (urging Commission not to unbundle merely because new entrants face risks); Qwest Farrell Reply Decl. at para. 13.

[288] *See* AREEDA & HOVENKAMP, *supra* note 242, para. 421c; GREER, *supra* note 244, at 240; CARLTON & PERLOFF, *supra* note 244, at 78; VISCUSI, VERNON, & HARRINGTON, *supra* note 240, at 161; HMG § 3.3. Factors that can add to the risk of entry can include whether the entrant will attract enough customers to take advantage of scale economies, whether it can install its equipment at the estimated cost, whether the incumbent will perform its required tasks with the necessary timeliness and quality, and whether the incumbent will respond to entry by dropping its price, as well as legal and regulatory uncertainties about future rules. *Cf., e.g.*, AT&T Jan. 10, 2003 *Ex Parte* Letter, Attach. at 4.

average cost, in response to entry.[289] In these ways, sunk costs can act to give significant first-mover advantages to incumbent LECs.[290]

89. *First-Mover Advantages*. First-mover advantages can contribute to the factors described above.[291] First-mover advantages can include preferential access to buildings,[292] access to rights-of-way,[293] the higher risk of new entrants' failure (often exacerbated by high sunk costs), the fact that the incumbent LEC has substantial sunk capacity, operational difficulties faced by an entrant that have already been worked out by the incumbent LEC when it built out its network as a monopolist,[294] consumers' reluctance to switch carriers,[295] and advertising and brand name preference.[296] First-mover advantages often create an absolute cost disadvantage for entrants, which, if large enough, can be a barrier to entry.[297] Some of these factors interact with

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[289] *See* SHY, INDUSTRIAL ORGANIZATION, *supra* note 250, at 186-206.

[290] *See UNE Remand Order*, 15 FCC Rcd at 3736-37, paras. 77-80. *Cf.* Allegiance Reply at 13 (noting that requesting carriers incur sunk costs in negotiating arbitration agreements and deploying OSS for the purposes of ordering UNEs).

[291] *See, e.g.*, WorldCom Reply at 17-18; AT&T Willig Reply Decl. at paras. 29-31; AT&T Jan. 10, 2003 *Ex Parte* Letter, Attach. at 6-8.

[292] *See, e.g.*, AT&T Reply at 50 (noting that delays associated with obtaining building access can prevent carriers from providing service); Letter from Ruth Milkman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. (filed Oct. 25, 2002) (WorldCom Oct. 25, 2002 *Ex Parte* Letter). The Commission has an open proceeding on building access issues. *See Promotion of Competitive Networks in Local Telecommunications Market*s, WT Docket No. 99-217, CC Docket Nos. 96-98, 88-57, First Report and Order and Further Notice of Proposed Rulemaking in WT Docket No. 99-217, Fifth Report and Order and Memorandum Opinion and Order in CC Docket No. 96-98, and Fourth Report and Order and Memorandum Opinion and Order in CC Docket No. 88-57, 15 FCC Rcd 22983 (2000) (*Competitive Networks Order*).

[293] *See, e.g.*, WorldCom Reply at 17-18. Section 224 of the Act provides a detailed scheme for the regulation of access to rights-of-way. 47 U.S.C. § 224. While section 224 provides certain rights to requesting telecommunications carriers, the requesting carriers must still face costs inherent in exercising those rights – costs that the incumbent LEC does not face because it already has access to rights-of-way (for its existing network).

[294] *See, e.g.*, AT&T Reply at 49-51 (noting that hot cut issues can cause delays and degrade quality of new entrant's service); Letter from Laurence J. Kotlikoff, Professor of Economics, Boston University, to Michael K. Powell, Chairman, FCC, *et al*., CC Docket Nos. 01-338, 96-98, 98-147, Attach., *in* Letter from Penelope K. Alberg, AT&T, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 22, 2003) (AT&T Jan. 22, 2003 *Ex Parte* Letter). *Cf.* BOC Shelanski Decl. at paras. 30-31 (arguing that costs of combining network elements with non-incumbent facilities should not result in a finding of impairment unless they are so high as to make alternatives economically infeasible).

[295] Consumers' reluctance to switch carriers may be caused by inertia or the high costs of changing.

[296] We note, as well, that requesting carriers may also have very recognizable brand names. *See* BellSouth NERA Reply Decl. at para. 73.

[297] *See, e.g.*, Z-Tel Comments at 26 (noting that incumbent LECs have cost advantages resulting from their historic monopoly position); Allegiance Reply at 14 (noting that requesting carriers incur higher marketing and promotional costs than incumbent LECs).

other factors, such as scale economies, to create barriers to entry.[298] As we consider these factors, we will keep in mind that new entrants may have countervailing advantages (second mover advantages) that mitigate some of these factors. For example, competitors are able to design new networks, and may be able to offer higher quality services than incumbent LECs because they are relying on newer equipment.[299] While these countervailing advantages are relevant, they are not necessarily dispositive and do not, without further analysis of the other relevant factors we describe, demonstrate a lack of impairment.[300]

90. *Absolute Cost Advantages*. When the incumbent LEC has absolute cost advantages, other firms may be deterred from entering the market.[301] Particularly if the incumbent LEC is providing service at rates close to its average cost, competitive LECs may find it difficult or impossible to provide service in an economic fashion, because they likely will have higher average costs than the incumbent LEC. Small disadvantages, however, will not pose a barrier unless they raise an entrant's costs above revenues.[302]

91. *Barriers Within the Control of the Incumbent LEC.* We also examine those barriers to entry that are solely or primarily within the control of the incumbent LEC. We look to these barriers because it is within the control of the incumbent LEC to eliminate them or mitigate their effects, which could eliminate the need to unbundle network elements to overcome them. This approach flows from the Act's call for a deregulatory approach where possible.[303]

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[298] For example, the incumbent LEC's advantage in advertising or brand name preference can affect an entrant's ability to reach a large enough size to achieve the scale economies necessary to compete with the incumbent. Advertising and brand name preference play a critical role in the HMG in helping to determine whether an entrant can achieve the minimum viable scale. *See* HMG § 3.3 n.33 ("Entrants' anticipated share of growth in demand depends on incumbents' capacity constraints and irreversible investments in capacity expansion, as well as on the relative appeal, acceptability, and reputation of incumbents' and entrants' products to the new demand.").

[299] *See* SBC Comments at 36; Verizon Comments at 42; Verizon Reply at 42; BellSouth NERA Reply Decl. at para. 72. Competitive LECs may also have countervailing advantages in being free to avoid unattractive markets. *See* Verizon Reply at 43.

[300] *See* Verizon Reply at 41 (arguing that the incumbent LECs' scale and scope economies are irrelevant because competitors design new networks).

[301] *See, e.g.*, AT&T Jan. 10, 2003 *Ex Parte* Letter, Attach. at 6.

[302] We find support for considering absolute cost advantages, as does Professor Willig, in the HMG. The HMG ask whether potential committed entrants with significantly higher costs than the incumbents can act to hold prices down to pre-merger levels. Similarly, the HMG ask whether potential committed entrants can achieve the minimum viable scale – absolute cost advantages could prevent them from doing so. This is analogous to our question – whether new firms can enter the market to challenge the incumbent LECs. *See* AT&T Nov. 14, 2002 *Ex Parte* Letter, Attach. at 3-4, 7-8; Letter from C. Frederick Beckner, III, Counsel for AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 3 (filed Feb. 12, 2003) (AT&T Feb. 12, 2003 *Ex Parte* Letter); *see also* AT&T Jan. 22, 2003 *Ex Parte* Letter, Attach. *But see* Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. (filed Feb. 6, 2003) (Qwest Feb. 6, 2003 *Ex Parte* Letter) (citing A. Douglas Melamed that argues that the HMG do not contain any explicit reference to any absolute cost disadvantages.).

[303] *See* Preamble to the 1996 Act.

Thus, if there are technical or operational barriers solely or primarily within the incumbent LEC's control,[304] unbundling a network element may give the requesting carrier an opportunity to compete while the incumbent LEC determines whether or how it might cure the provisioning or operational problems. By contrast, factors that are within the control of the new entrant, such as those that might be caused by choosing a particular network architecture, are less likely to result in an unbundling determination to the extent they are truly within the new entrant's control.[305] Accordingly, we disagree with commenters that argue that we should give operational barriers less weight in our impairment analysis and deal with them more directly instead.[306] Rather, we find that some operational difficulties are inherent in the unbundling process, and find it necessary to take them into account in our analysis.

(ii) Evidence of Impairment

92. Parties have submitted an enormous amount of evidence for our consideration in this proceeding. We will address the merits of this evidence in the Parts below regarding the application of the unbundling analysis to specific UNEs. As guidance for our analysis, however, we explain here what kinds of evidence we will find most persuasive in those discussions. We do not adopt a "burden of proof" approach that places the onus on either incumbent LECs or competitors to prove or disprove the need for unbundling.[307] Rather, in the application of our standard, we examine the record evidence in light of the Act's goals to make the best determination regarding the need for unbundling.

93. As we anticipated in the *Triennial Review NPRM*, we agree with commenters that argue that actual marketplace evidence is the most persuasive and useful kind of evidence

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[304] *See, e.g.*, AT&T Reply at 49 ("Delays that would result from denials of access to a UNE materially diminish CLECs' ability to provide service in multiple ways. For example, hot cuts cause delays that have prevented CLECs from serving the overwhelming majority of customer locations . . . .").

[305] *See, e.g.*, Letter from Michael E. Glover, Senior Vice President and Deputy General Counsel, Verizon, and Susanne Guyer, Senior Vice President – Federal Regulatory Affairs, Verizon, to William F. Maher, Chief, Wireline Competition Bureau, FCC, at 6-7, *in* Letter from Ann D. Berkowitz, Project Manager – Federal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 10, 2003) (Verizon Jan. 10, 2003 UNE-P *Ex Parte* Letter).

[306] *See, e.g.*, SBC Comments at 36-37.

[307] *See, e.g.*, ALTS *et al*. Comments at 123-24; BellSouth Comments at 18-21; NuVox Reply at 24-25; Letter from Michael E. Glover, Senior Vice President and Deputy General Counsel, Verizon, and Susanne Guyer, Senior Vice President – Federal Regulatory Affairs, Verizon, to William F. Maher, Chief, Wireline Competition Bureau, FCC, at 3, *in* Letter from William P. Barr, Executive Vice President and General Counsel, Verizon, to Michael K. Powell, Chairman, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Dec. 17, 2002) (Verizon Dec. 17, 2002 *Ex Parte* Letter). Because we decline to adopt a "burden of proof" approach, we dismiss as moot that portion of the CompTel Nov. 26, 2001 Joint Conference Petition in which CompTel asks the Commission to impose a burden of proof on parties requesting that a UNE no longer be unbundled. *See* CompTel Nov. 26, 2001 Joint Conference Petition at 13.

submitted.[308] In particular, we are most interested in granular evidence that new entrants are providing retail services in the relevant market using non-incumbent LEC facilities, for two main reasons. First, it is faithful to the Supreme Court's admonition that we consider "the availability of elements outside the incumbent's network" as we apply the "impair" standard.[309] Second, this kind of evidence demonstrates better than any other kind what business decisions actual market participants have made regarding whether it is feasible to provide service without relying on the incumbent LEC. Specifically, this evidence shows us whether *new entrants*, as a practical matter, have surmounted barriers to entry in the relevant market.[310]

94. As we examine the evidence of facilities deployment by competitive LECs in the specific UNE discussions, we will give it substantial weight,[311] but we do not agree that we must find it conclusive or presumptive of a particular outcome without additional information or analysis.[312] For example, if the marketplace evidence shows that new entrants have deployed a certain type of facility, we will consider the facts as evidence that the barriers to entry in that market for that element are surmountable.[313] In deciding what weight to give this evidence, we will consider how extensively carriers have been able to deploy such alternatives, to serve what

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[308] *See Triennial Review NPRM*, 16 FCC Rcd at 22789, para. 17; *see also* Qwest Comments at 5, 11-12; SBC Comments at 27; Qwest Farrell Reply Decl. at para. 17. *But see* Competitive Enterprise Institute Comments at 2 (urging the Commission not to rely on marketplace evidence in a way that freezes its rules to today's conditions).

[309] *Iowa Utils. Bd.*, 525 U.S. at 389; *see also* Letter from Karen Brinkmann, Counsel for ITTA, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 1 (filed Jan. 29, 2003) (ITTA Jan. 29, 2003 *Ex Parte* Letter) (noting that question is whether elements are available from sources other than incumbent LEC).

[310] *Cf., e.g.*, BOC Shelanski Reply Decl. at paras. 8-12 (arguing that, as facilities-based entry increases, unbundling makes less sense because it punishes earlier facilities-based entrants, fails to recognize that the market can only absorb a limited number of firms, and confuses impairment with lack of an attractive business case). We recognize the credibility of econometric analytical techniques, such as regression analysis, when properly specified and conducted.

[311] *See, e.g.*, BOC Shelanski Decl. at para. 17; Qwest Reply at 7-8; BOC Shelanski Reply Decl. at para. 17; Verizon Jan. 10, 2003 *Ex Parte* Letter, Attach. at 2 (arguing that the Commission should presume that alternative facilities can be deployed anywhere); Verizon Dec. 17, 2002 *Ex Parte* Letter, Attach. at 2 (arguing that no carriers are impaired in markets where competitive entry has occurred), 3 (arguing for presumption of no impairment when facilities at issue have been significantly deployed on a competitive basis). Similarly, we do not presume that if one carrier can enter the market without UNEs, there is no impairment.

[312] *See, e.g.*, CompTel Comments at 62 (urging the Commission not to rely on a "simple count" of alternative facilities); GCI Comments at 19; Z-Tel Comments at 23; AT&T Reply at 41-43; NuVox Reply at 23; SBC Reply at 10 ("If competitive facilities already have been deployed, then *ipso facto* they can be deployed. That does not mean that the mere presence of a single competitive facilities in a particular market necessarily precludes a finding of impairment in that market."); Talk America Reply at 18; WorldCom Reply at 29.

[313] *Cf.* Qwest Comments at 11-12.

extent of the market, and how mature and stable that market is.[314] Thus, while we agree that such evidence may indicate a lack of impairment, we disagree with commenters that argue that such evidence is dispositive or creates a rebuttable presumption of no impairment.[315] We likewise disagree that evidence of deployment of alternative facilities or availability of non-UNE alternatives from the incumbent LEC means that a market is "contestable" (as some parties use that term) and therefore *necessarily* shows a lack of impairment.[316] Rather, as just stated, evidence of alternative deployment is probative but not necessarily dispositive of a lack of impairment. And as we explain in detail below, the availability of non-UNE alternatives from incumbent LECs (such as tariffed services or resold retail services) has little bearing on our impairment analysis.[317]

95. Likewise, we disagree that evidence of alternative deployment is irrelevant unless access to those facilities is available to requesting carriers on a wholesale basis.[318] We examine whether wholesale suppliers exist, but our standard is not based solely on whether there is a wholesale market. Instead, we also consider the possibility of self-provisioning. We also disagree that deployment of alternative facilities is necessarily irrelevant unless carriers have been able to serve customers profitably over those facilities.[319] We may consider the extent to

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[314] *See* CompTel Comments at 72-73 (noting that many carriers that have self-deployed are now bankrupt or have left the market); Covad Comments at 16-18; *see also* Talk America Comments at 22 (noting that industry must mature before facilities-based competition will emerge).

[315] *See* BellSouth Comments at 17, 23; Qwest Comments at 11 ("The fact of widespread CLEC entry without reliance on a particular UNE from the incumbent should be deemed to – and clearly does – establish that lack of access to that UNE under section 251 does not impair the ability of a CLEC to provide service."); SBC Comments at 27 ("That some CLECs are in fact providing service over their own facilities is *dispositive* evidence that carriers are not impaired without access to ILEC facilities.") (emphasis in original); Verizon Comments at 43-46 ("Thus, if some CLECs use non-ILEC facilities to serve particular types of customers or geographic locations, then no CLEC should be considered impaired without access to the relevant UNEs – not just with respect to the specific customers or locations served by the original CLECs, but with respect to all similar customers or locations [as well as where] circumstances are not strictly similar."); Verizon Reply at 38.

[316] *See, e.g.*, Verizon Dec. 17, 2002 *Ex Parte* Letter, Attach. at 2; Letter from Brian J. Benison, Associate Director – Federal Regulatory, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 2 (filed Jan. 29, 2003) (SBC Jan. 29, 2003 *Ex Parte* Letter). *But see* Letter from C. Frederick Beckner III, Counsel for AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 31, 2003) (AT&T Jan. 31, 2003 *Ex Parte* Letter) (arguing that a so-called "contestability" analysis that focuses on the presence of a single alternative on a specific route is insufficient to judge impairment).

[317] *See infra* para. 102.

[318] *See, e.g.*, Covad Reply at 13; *see also* NuVox Reply at 23, 28; Sprint Reply at 19; Talk America Reply at 18-20; Letter from Frederick W. Hitz, III, Director, Rates and Tariffs, General Communication, Inc., to William Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147, 01-318, 98-56, 98-141 at 4, *in* Letter from John T. Nakahata, Counsel for GCI, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, 01-318, 96-56, 98-141 (filed Jan. 27, 2003) (GCI Jan. 27, 2003 *Ex Parte* Letter) (arguing that the wholesale market for inputs is the relevant market to consider in the impairment analysis).

[319] *See, e.g.*, AT&T Reply at 42-43.

which carriers have been able to serve customers profitably, but we recognize that profitability can be affected by many factors other than those we examine for the "impair" analysis, such as whether there is overcapacity in the market,[320] whether facilities-based carriers are still in the process of deploying capacity,[321] and the scope economies involved in providing multiple services.[322]

96. On the other hand, if the marketplace evidence shows that new entrants have not widely deployed a particular kind of facility, we will consider the facts as some evidence that barriers to entry in that market for that element are preventing the deployment. We will not generally presume from lack of entry or lack of deployment, however, that there are barriers to entry in the relevant market,[323] or that any barriers cannot be overcome through means other than unbundling without further analysis. For example, the market may be nascent and therefore not mature enough to determine whether the lack of entry demonstrates impairment. We also consider the possibility that past unbundling policies may have discouraged the build-out of facilities. We further recognize that many factors contribute to a new entrant's decision where to place its facilities, and that new entrants may in some cases simply choose not to enter a particular market. We will not necessarily presume from that lack of entry that unbundling is warranted.[324]

97. We also examine evidence that intermodal alternatives[325] can be used to provide telecommunications service. In appropriate instances, evidence of the deployment of intermodal alternatives informs our judgment on the "impair" factors described above, and in those circumstances we will give weight to deployment of intermodal alternatives in our analysis. Specifically, we consider whether these intermodal alternatives permit a requesting carrier to

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[320] If more facilities-based carriers have entered the market than can be supported by market demand, creating overcapacity and generating low prices, none of the carriers may be profitable. However, self-provisioning has been demonstrated to be achievable, and with exit of one or more carriers, the remaining carriers may achieve profitability.

[321] There may be clear evidence that carriers are profitably serving customers in a particular area, but have not achieved overall profitability because they are still in the process of expanding their business.

[322] It can be difficult to determine the profitability of an individual product for a multiproduct firm. While the revenues obtained from a particular product may not completely cover the stand-alone costs of providing just that product, they may be sufficient to cover the incremental costs, such that selling the product adds to the firm's profitability. *See* WILLIAM J. BAUMOL, JOHN C. PANZAR & ROBERT D. WILLIG, CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE 351-56 (1988).

[323] *See* Verizon Comments at 45, 60-61; SBC Reply at 47 ("To the extent competitive facilities have not been deployed in a particular market, therefore, the Commission must attempt to determine why, and it must differentiate between true impairment and factors that have nothing to do with impairment.").

[324] *See* Qwest Comments at 13; BOC Shelanski Decl. at paras. 4, 42; BOC Shelanski Reply Decl. at para. 25.

[325] By "intermodal," we refer generally to facilities or technologies other than those found in traditional telephone networks. These include, for example, traditional or new cable plant, wireless technologies (satellite, mobile, and fixed), power line (electric grid) technologies, or other technologies not rooted in traditional telephone networks.

serve the market, either through self-provisioning or by obtaining capacity on a wholesale basis.[326] We take these alternatives into account for several reasons. First, the Act expresses no preference for the technology that carriers should use to compete with the incumbent LECs. Second, we do not want to prejudice market participants' business decisions about whether to deploy alternative facilities by basing our unbundling rules on the presence or absence of any certain technology. Third, in some instances, the presence of intermodal alternatives can be just as probative of a lack of impairment as the presence of traditional wireline "telephone" deployment. The fact that an entrant has deployed its own facilities – regardless of the technology chosen – may provide evidence that any barriers to entry can be overcome. This approach is consistent with *USTA*'s admonition that we should consider intermodal competitors as relevant to our analysis.[327] Just as with regard to the deployment of new traditional facilities, however, we do not find the presence of intermodal alternatives dispositive in our impairment analysis,[328] as some commenters suggest.[329] We also disagree with commenters that suggest that deployment of intermodal alternatives is irrelevant if the facilities are not available to requesting carriers on a wholesale basis,[330] for reasons discussed in the preceding paragraphs. As we evaluate evidence of intermodal deployment, we will consider to what extent services provided over these intermodal alternatives are comparable in cost, quality, and maturity to incumbent LEC services.[331]

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[326] Many commenters have urged us to take services provided over intermodal alternatives into account. *See* Verizon Oct. 16, 2002 *Ex Parte* Letter at 4 ("In determining whether an element meets the standard for unbundling, the Commission must consider the full range of technologies by which that element's *function* could be performed.") (emphasis in original); *see also* Alcatel Comments at 17-18; Qwest Comments at 6-8, 15; USTA Comments at 4-5; Verizon Comments at 46-51; BOC Shelanski Decl. at para. 43; AT&T Reply at 57 ("[T]he Commission must consider whether substitute services that are offered outside the ILECs' networks have led to the profitable provision of service by multiple providers . . . ."); Qwest Reply at 16-17; BOC Shelanski Reply Decl. at para. 23; Qwest Farrell Reply Decl. at para. 18. *But see* Moline and CCG Comments at 8-11 (urging Commission not to give too much weight to intermodal competition); Sprint Comments at 12-13 (arguing that even where intermodal alternatives are available, unbundling may be necessary to promote robust competition); NuVox Reply at 21-22.

[327] *See USTA*, 290 F.3d at 429.

[328] *See supra* para. 64.

[329] *See, e.g.*, Qwest Comments at 6-9; Verizon Comments at 46-48.

[330] *See* ALTS *et al*. Comments at 39-40; ASCENT Comments at 26; UNE-P Coalition Comments at 19; *see also* Allegiance Reply at 21; ASCENT Reply at 13; Covad Reply at 13. *But see* Qwest Reply at 16-17. We also address this argument in more detail *infra* para. 112. We also disagree that intermodal alternatives should not be considered because "CLECs desire to offer wireline service, not wireless service or cable telephony." *See, e.g.*, ASCENT Reply at 13. As explained above and as the *USTA* decision explained, we look at alternatives for whether they provide comparable service, not the same technology. *See USTA*, 290 F.3d at 429.

[331] *See* Allegiance Reply at 24-25. Our analysis is necessarily based on the current technical capabilities, economic characteristics, and patterns of use of intermodal alternatives. These facts are likely to change going forward as these and other technologies develop. The changes may affect future impairment determinations.

98. In some cases, the differences between intermodal alternatives and traditional wireline deployments may reduce the weight we give to the deployment of alternatives. For example, some carriers relying on intermodal alternatives have not needed to overcome the same kinds of barriers as new entrants that start without any facilities at all. Cable telephony and cable modem service, for example, have developed because cable operators have been able to overlay additional capabilities onto networks that they built for other purposes, often under government franchise, and therefore have first-mover advantages and scope economies not available to other new entrants, which lower their incremental costs of providing the additional services.[332] Similarly, we recognize that some intermodal technologies will only be available to one or a few firms due to legal restrictions, such as spectrum licensing requirements, that may limit the number of firms that can use a given technology in one geographic area. When an intermodal technology is limited in availability to only one or a few telecommunications carriers – either because of the historical economic characteristics of their providers or legal restrictions – we will consider whether that technology contributes to a wholesale market in accessing the customer. We may give less weight to intermodal alternatives that do not contribute to the creation of a wholesale market in accessing the customer or do not provide evidence that self-deployment of such access is possible to other entrants. In addition, if the record evidence shows that there are limitations on the number or types of customers that can be served by a particular technology, we will consider whether an entrant could use this technology profitably to target only those customers that can be served by the alternative technology.

99. We will also give consideration to cost studies, business case analyses, and modeling if they provide evidence at a granular level concerning the ability of competitors economically to serve the market without the UNE in question. While these are useful tools for analysis, we may give this evidence less weight than actual marketplace evidence for several reasons. First, as stated above, actual marketplace evidence shows whether new entrants, as a practical matter, have surmounted barriers to entry in the relevant market. Second, these studies are generally based on estimates of costs and revenues that can be difficult to verify, and thus are more easily manipulated by the advocates in this proceeding. Third, there may be issues and factors that affect a competitor's ability to enter that are difficult to foresee (such as unexpected costs, delays, revenue streams, or new niche products). Thus, there will be uncertainty concerning the existence of such factors when examining these studies, while examination of actual marketplace evidence will reveal whether such factors exist and are significant.

100. In conducting our impairment analysis, we recognize that decisions on whether to enter are based not just on the cost of entry but also on the revenues to be gained.[333] Thus, we will consider, where provided, evidence of the revenue opportunities available to those carriers that provide services over the relevant facilities, keeping in mind that competitors are able to

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[332] *Cf.* AT&T Reply at 34 (arguing that the presence of a cable competitor has *no* relevance to the impairment analysis).

[333] *See, e.g.*, AT&T Comments at 36; CompTel Comments at 71 (urging the Commission to take profitability into account in the analysis of self-provisioning); Talk America Comments at 15 (noting that financial viability depends on the difference between retail rates and the cost of providing service).

choose which markets to enter and to avoid unattractive markets.[334] We consider *all* the revenue opportunities that a competitor can reasonably expect to gain over the facilities, from providing all possible services that an entrant could reasonably expect to sell,[335] taking into account limitations on entrants' ability to provide multiple services, such as diseconomies of scope in production, management, and advertising.[336]

101. In our impairment analysis, we examine both whether new entrants can provide retail services over non-incumbent facilities and whether new entrants can provide wholesale services over non-incumbent facilities.[337] Rather than providing the retail services itself,[338] a wholesaling carrier will be providing service to other carriers that will provide, individually or as a group, the range of services that customers want, at market-based prices. Thus, the wholesale carrier's sales and revenues are dependent on the services the retail carriers will demand and the prices they are willing to pay, which in turn depend on the revenues they gain from the retail services provided.[339] Wholesale carriers may not be limited by the same factors that limit the likely market share of carriers providing retail service, since they will be able to serve multiple carriers' needs. Thus, if advertising or diseconomies of scale or scope limit individual carriers' market shares and product lines, which could make self-deployment of facilities uneconomic, a wholesale carrier may be able to serve multiple carriers and overcome these limits in the aggregate.

102. We reaffirm our prior conclusion in the *UNE Remand Order* to afford little weight to evidence that requesting carriers are using incumbent LEC tariffed services as relevant to our unbundling determination.[340] Specifically, many commenters have urged us to find that requesting carriers are not necessarily impaired if they can use incumbent LEC resold or retail

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[334] *See USTA*, 290 F.3d at 423 (urging the Commission to consider high retail rates as they relate to revenue opportunities); Verizon Comments at 42.

[335] *See* Verizon Comments at 57.

[336] Diseconomies of scope are the opposite of economies of scope. Diseconomies of scope occur when the cost of producing a good rises when a firm attempts to produce a second good. *See* John C. Panzar, *Technological Determinations of Firm and Industry Structure*, *in* 1 HANDBOOK OF INDUSTRIAL ORGANIZATION 16 (Richard Schmalensee and Robert Willig, eds., 1989).

[337] The wholesale provision of services would not be limited to exchange access services, but would include all access services. *See infra* Part V.B.2.c.

[338] This implies the carrier is vertically integrated, providing both wholesale and retail service itself. The product it provides from its upstream wholesale service is then combined with other inputs to provide downstream retail service.

[339] The demand for the wholesale carrier services is therefore a derived demand from retail sales.

[340] *See UNE Remand Order*, 15 FCC Rcd at 3732-34, paras. 67-70; *see also* AT&T Comments at 38-39; ATTWS Comments at 14-16; CompTel Comments at 64-65; Allegiance Reply at 30-31; AT&T Reply at 56.

tariffed services, such as special access, to provide their retail service.[341] We decline to adopt this position. We conclude that it would be inconsistent with the Act if we permitted the incumbent LEC to avoid all unbundling merely by providing resold or tariffed services as an alternative.[342] Such an approach would give the incumbent LECs unilateral power to avoid unbundling at TELRIC rates simply by voluntarily making elements available at some higher price. Because the Act contains three modes of entry, we cannot find an approach that would so easily remove one mode from the Act to be a reasonable reading of Congress's intent.[343] Indeed, such an approach would also be contrary to the Act's requirement that unbundled facilities – facilities without which serving the market becomes uneconomic – should be priced at cost-based rates[344] and our determination that TELRIC is the appropriate methodology for determining those rates – an approach to rates that the Supreme Court has affirmed.[345] In addition, resold and retail tariffed offerings present different opportunities and risks for the requesting carrier than the use of UNEs or non-incumbent LEC alternatives.[346] Also, forcing requesting carriers to rely on tariffed offerings would place too much control in the hands of the incumbent LECs, which could subsequently alter their tariffs and thereby engage in a vertical price squeeze.[347]

103. Likewise, we disagree with commenters that argue that the presence of a tariffed offering that is subject to substantial competition in the retail market should preclude an impairment finding with respect to the UNEs used to provide the relevant service.[348] As explained in greater detail in Parts V.B.1.d(iii) and V.B.2.c below, our unbundling analysis considers service, but does not examine whether the relevant market is competitive as part of the unbundling analysis.

104. Similarly, as we found in the *UNE Remand Order*,[349] we do not find that wherever incumbent LECs have received pricing flexibility, we should not unbundle the relevant network

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[341] *See* SBC Comments at 27-29; Verizon Comments at 51-55; BOC Shelanski Reply Decl. at para. 21; Verizon Dec. 17, 2002 *Ex Parte* Letter, Attach. at 8-10.

[342] *UNE Remand Order*, 15 FCC Rcd at 3732-33, para. 67.

[343] *See also Iowa Utils. Bd.*, 120 F.3d at 809-10 (rejecting a similar interpretation urged by incumbent LECs that would have given them the freedom to circumvent the unbundling obligations of section 251(c)(3) by choosing to offer network elements as services).

[344] *See* 47 U.S.C. § 252(d)(1)(A)(i).

[345] *See Verizon*, 535 U.S. at 497-528.

[346] *UNE Remand Order*, 15 FCC Rcd at 3733, para. 68.

[347] *UNE Remand Order*, 15 FCC Rcd at 3733, para. 69. SBC, for one, points out that the Commission could evaluate tariffed services and refuse to consider as alternatives those that it finds to be in place merely to avoid the unbundling rules, but this misses the points described in the text. *See* SBC Comments at 28-29.

[348] *See, e.g.*, Verizon Comments at 53.

[349] *See UNE Remand Order*, 15 FCC Rcd at 3756-57, paras. 131-32, 3849, para. 341 n.673.

elements.[350] Our pricing flexibility rules go to protecting consumers from anticompetitive pricing, which is not the same as our unbundling rules, which go to asking whether entry into a market is economic and to serving a host of statutory goals beyond protecting consumers from anticompetitive pricing. Thus, the "impair" test and the test for pricing flexibility are different, reflecting these different aims. Moreover, our unbundling analysis is far more granular, in many cases, than our pricing flexibility analysis. This is because competition in some parts of a market may be sufficient to constrain prices, but insufficient to demonstrate a lack of impairment. In the discussions of particular elements below, we consider evidence that competitors have collocated or deployed alternative facilities as highly relevant to our impairment analysis, but we will not presume that a grant of pricing flexibility necessitates a finding of lack of impairment.

(iii) Rejection of Other Approaches to Impairment

105. In this Part, we explain why we reject other approaches to impairment that commenters have put forward.

106. *UNE Remand Impairment Approach.* We disagree with commenters that press us to maintain the approach to unbundling that the Commission adopted in the *UNE Remand Order*.[351] We recognize that there are benefits to keeping a single regulatory standard in place if doing so can provide market certainty and predictability. The *UNE Remand* approach, however, has proven overbroad in some instances, and was rejected by the D.C. Circuit as insufficiently rigorous.[352] We could thus not maintain it, even if we found a good policy reason to do so.[353] While we no longer rely on, or formally examine, the five *UNE Remand* factors as a basis for our analysis of impairment, these factors still play a role in our analysis as they relate to the barriers to entry we have identified above.[354]

107. *Essential Facilities Doctrine*. As explained above in Part V.B.1.c, we use the essential facilities doctrine as a guide in formulating our "impair" standard, but we do not adopt

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[350] *See* Verizon Comments at 53-54; Verizon Dec. 17, 2002 *Ex Parte* Letter, Attach. at 6-8.

[351] *See, e.g.*, ALTS *et al*. Comments at 27-28; ASCENT Comments at 15-18; AT&T Comments at 34-40; Eschelon Comments at 7; McLeodUSA Comments at 4; NewSouth Comments at 48-50; NuVox Comments at 20, 22-33; Ohio Commission Comments at 5; Progress Telecom Comments at 16; Sprint Comments at 7-8; UNE-P Coalition Comments at 16-17, 20-21; WorldCom Comments at 50-52; UNE-P Coalition Reply at 15-17; Mpower Oct. 11, 2002 *Ex Parte* Letter, Attach. at 4. *But see* Verizon Comments at 55-61.

[352] *See USTA*, 290 F.3d at 415.

[353] We do not address the comments of parties that focused on the *UNE Remand* factors in their opening comments, before the D.C. Circuit issued its *USTA* decision, except to the extent those comments are still relevant after *USTA*.

[354] *See, e.g.*, WorldCom Reply at 11-12 (urging Commission to keep *UNE Remand* standard with modifications to comport to *USTA*).

the essential facilities doctrine as our standard.[355] First, as in prior orders, we point out that Congress could have codified the essential facilities doctrine in section 251(d)(2), but chose not to. Indeed, legislative history shows that Congress was aware of the essential facilities doctrine when it enacted section 251(d)(2), yet chose to use the ambiguous word "impair" rather than suggesting that the existing law of essential facilities should determine which network elements should be unbundled.[356] Second, the structure of the Act itself suggests that we cannot equate impairment with the essential facilities doctrine. The essential facilities doctrine is more analogous to the "necessary" standard of section 251(d)(2)(A) than to the "impair" standard of section 251(d)(2)(B). That is, before a court would require an owner to share its facility with competitors, it would determine that the facility was "essential" for competition. "Essential" appears comparable to "necessary."[357] To equate "essential" with "impair" would collapse the Act's two unbundling standards, rather than respect the dichotomy that Congress established. Finally, to adopt the essential facilities doctrine would disregard the fact that Congress chose to use a different standard. That is, where Congress wanted to address points that are analogous to parts of the essential facilities doctrine, it did so. For example, once a court determines that a facility is "essential," it must decide how it should be shared and at what price. Congress already put these mechanisms in place through the sharing requirement of section 251(c)(3) and the pricing requirements of section 252(d)(1). Indeed, Congress's requirements that facilities be shared at cost-based rates, and on a nondiscriminatory basis, are potentially more rigorous than the requirements that most courts would impose on the owner of an essential facility.[358] This additional departure from the essential facilities doctrine lends support to our conclusion that Congress did not intend for us to read it into the "impair" standard.

108. However, we incorporate important lessons from scholars who have examined the essential facilities doctrine into our interpretation of "impair." As the D.C. Circuit has noted, the essential facilities doctrine can "offer useful concepts for agency guidance when Congress has *directed* an agency to provide competitor access in a specific industry."[359] Indeed, scholars have noted the drawbacks of mandatory sharing of facilities in their criticisms of the essential facilities doctrine, and we have found these criticisms useful in our standard as explained above.[360]

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[355] *Cf.* BellSouth NERA Reply Decl. at para. 58 ("[I]mpairment cannot occur when a network element does not meet the definition of an essential facility."). *But see* AT&T Reply at 35; NewSouth Reply at 9-10; WorldCom Reply at 19-20; Z-Tel Reply at 57-60.

[356] *See* 137 Cong. Rec. S7054, S7058 (daily ed. June 5, 1991 (reading S. 1200, 102d Cong. § 202 (1991)); *see also UNE Remand Order*, 15 FCC Rcd at 3728-30, paras. 57-61 (discussing essential facilities doctrine).

[357] Thus, a significant cost disadvantage that hinders the ability of competitors to enter may be sufficient to trigger a finding of impairment, but may not qualify the facility as essential.

[358] INGO VOGELSANG & BRIDGER M. MITCHELL, TELECOMMUNICATIONS COMPETITION: THE LAST TEN MILES 57 (1997).

[359] *USTA*, 290 F.3d at 427 n.4 (emphasis in original).

[360] *See supra* Part V.B.1.c.

109. *Market Power Analysis and the Use of Antitrust or HMG Analysis*. We reject the arguments that we should require the unbundling of network elements to remove an incumbent LEC's market power in the retail market and that we should use the HMG to identify market power.[361] The purposes of a market power analysis are not the purposes of section 251(d)(2). While this antitrust analysis attempts to determine whether market participants would be able to exercise market power and raise prices above competitive levels if a merger were consummated, the Act requires only that network elements be unbundled if competing carriers are impaired without them, regardless of whether the incumbent LEC is exercising market power or the unbundling would eliminate this market power. A market power analysis would go to the question of whether an incumbent LEC could raise its retail prices unchecked; the impair analysis asks whether a new entrant can provide its services without the UNE. A market power analysis might be appropriate if the only goal of the Act were to drive prices to cost,[362] but that approach disregards the Act's other goals of encouraging the deployment of alternative facilities and new technologies and reducing regulation.

110. We also decline to adopt a standard that equates or hinges a requesting carrier's impairment with an incumbent LEC's market power in the wholesale market for the input in question. Some commenters argue that an incumbent LEC's market power in the wholesale market will permit it to charge prices above cost for that input, thus creating or worsening a cost disadvantage for new entrants.[363] Similar to our reasoning just above, we point out that the Act is not directly aimed at eliminating an incumbent LEC's market power in any particular market, but in identifying new entrants' impairment. While incumbent LECs control wholesale facilities in a manner that often creates market power, we look instead for whether new entrants are impaired without those facilities. Indeed, there may be circumstances where an incumbent LEC has market power with regard to a particular input, but competitors are not impaired without access to the element, so unbundling would not be appropriate and might discourage new entrants from building their own facilities. In addition, an analysis that focused exclusively on the wholesale market would fail to give weight to the possibility or actuality of self-provisioning.

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[361] *See, e.g.*, AT&T Nov. 14, 2002 *Ex Parte* Letter, Attach. at 2; AT&T Jan. 22, 2003 *Ex Parte* Letter, Attach.; AT&T Feb. 12, 2003 *Ex Parte* Letter, Attach. at 2 ("[A]n economically rigorous 'impairment' analysis must assess whether facilities-based entry by competitive carriers (or more generally, entry by competitive carriers without access to unbundled network elements at cost-based prices) will be able to stop the incumbent LECs from exercising market power."). Covad argues that we should always order unbundling in highly concentrated markets (calculated using the Herfindahl-Hirschman Index), presumptively order unbundling in moderately concentrated markets, and not order unbundling in unconcentrated markets. *See* Covad Reply at 8-14; Covad Reply, Reply Declaration of Terry L. Murray (Covad Murray Reply Decl.) at paras. 12-42.

[362] *See* AT&T Nov. 14, 2002 *Ex Parte* Letter, Attach. at 2 ("[T]he Commission should continue to mandate unbundled access to network elements to the extent that such access is necessary to drive retail rates towards costs.").

[363] *See, e.g.*, Allegiance Comments at 6-11; Allegiance Reply at 3, 18-20. Allegiance has specifically suggested that we should find impairment unless there are four non-incumbent LEC sources of supply, either self-provisioned or wholesale offerings. *See* Allegiance Comments at 9-10; Allegiance Reply at 3-4.

111. *HMG Analysis of Committed Entry.* We disagree with commenters that suggest that we should adopt the HMG's analysis of "committed entry" as our "impair" standard.[364] The HMG apply a three-pronged test to determine whether committed entry is likely to deter anticompetitive behavior post-merger.[365] Specifically, the HMG consider whether committed entry would be timely,[366] likely,[367] and sufficient[368] in response to a "small but significant and nontransitory" post-merger price increase. Although we recognize a substantial amount of commonality between the HMG's framework for assessing ease of entry and our analysis of entry barriers above,[369] we do not adopt the standards and framework of the HMG for evaluating committed entry.[370] First, in contrast to the HMG, we are not considering whether new competitors will enter the market in response to a "small but significant and nontransitory" price rise,[371] nor do we assume that incumbent LECs will be ceding a portion of the market to competitors due to this price rise. Second, contrary to commenters' urgings as discussed above, our impairment analysis does not share the HMG's goal of determining whether committed entry will check incumbents' market power.[372] Third, the HMG do not take into consideration the other goals we do here – particularly encouraging investment in new facilities by both incumbent LECs and others – or the costs of unbundling that the courts have pointed out to us.[373] Finally, the time horizon of two years in the HMG is a fairly short period compared to the time it is likely

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[364] *See* AT&T Nov. 14, 2002 *Ex Parte* Letter.

[365] HMG § 3.0.

[366] The HMG consider entry to be timely if it can have a significant market impact within two years of initial planning. *See* HMG § 3.2.

[367] The HMG consider entry to be likely if it would profitable in the long run at pre-merger prices, if those prices are attainable. *See* HMG § 3.3.

[368] The HMG consider entry to be sufficient if it will force market prices to their pre-merger levels. *See* HMG §§ 3.0, 3.4.

[369] For example, as explained by Professor Willig on behalf of AT&T, the HMG ask whether entry would require significant sunk costs, HMG § 1.32, whether a new entrant could likely achieve a level of sales sufficient to be profitable, HMG § 3.3, and whether a new entrant suffers from absolute cost disadvantages as compared with the incumbent, HMG §§ 1.11, 1.32. And "[i]n short, consistent with established antitrust economics, the *Guidelines* conclude that the greater the magnitude of the fixed and sunk investment and the greater the scope of entry a new entrant needs to achieve unit costs that are comparable to the incumbent's, the less likely that such entry will occur." AT&T Nov. 14, 2002 *Ex Parte* Letter, Attach. at 3-8.

[370] *See* AT&T Nov. 14, 2002 *Ex Parte* Letter, Attach.; *see also* Covad Murray Reply Decl. at paras. 43-51.

[371] *But see* Covad Murray Reply Decl. at para. 25 (noting that "small but significant" price construct not directly relevant to impairment analysis).

[372] *But see* AT&T Feb. 12, 2003 *Ex Parte* Letter, Attach. at 1 ("[A]ny economically rigorous impairment analysis must determine whether the denial of access to a particular network element at cost-based rates would enable incumbent LECs to exercise market power by charging supra-competitive prices, and . . . the *Guidelines* contain a logical and accepted framework for accomplishing such analysis.").

[373] *See Iowa Utils. Bd.*, 525 U.S. at 428-29 (Breyer, J., concurring); *USTA*, 290 F.3d at 425, 427.

to take for full competition to develop in local telecommunications, particularly on a facilities basis.[374] The Act effectively attempts a restructuring of the local telecommunications market, and it often takes decades for a new technology or organizational structure to completely replace the old structure. Building new facilities and networks and developing and delivering new services will take a substantial period of time. We recognize that adopting a standard that has been revised and improved over decades, and subject to much scrutiny in judicial and regulatory proceedings, would have the benefit of providing predictability to our analysis.[375] We cannot, however, adopt a standard that does not fit the purposes of the Act.

112. *Cost Disadvantages*. We reject the proposal to find impairment whenever entrants would suffer from a substantial cost disadvantage (such as five percent), regardless of whether entry is still possible.[376] In a related argument, Z-Tel urges us to find impairment when entrants are likely to sell less of their product without the UNE than they would with the UNE – which Z-Tel explains would be a consequence of cost disparities.[377] A cost disadvantage standard would focus on maximizing entry to the detriment of the other goals of the Act, such as innovation, deployment of new technologies, and reduced regulation, which goals are most likely to be met through facilities-based competition. Second, entry may be possible despite cost disadvantages, and our "impair" standard takes into account costs as compared with potential

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[374] *But see* Covad Murray Reply Decl. at paras. 7, 45.

[375] *See, e.g.*, Covad Reply at 10.

[376] *See, e.g.*, Z-Tel Reply, Declaration of George S. Ford (Z-Tel Ford Reply Decl.) at paras. 26-30, 43-49, 82-83; Letter from Donna Sorgi, Vice President – Federal Advocacy, WorldCom, to William F. Maher, Chief, Wireline Competition Bureau, FCC, at 2-3, *in* Letter from Gil M. Strobel, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 8, 2003) (WorldCom Jan. 8, 2003 *Ex Parte* Letter); AT&T Jan. 22, 2003 *Ex Parte* Letter, Attach. at 8-9; Letter from Kemal Hawa, Counsel for MetTel and Bridgecom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 8 (filed Jan. 27, 2003) (MetTel Jan. 27, 2003 *Ex Parte* Letter) (noting importance of costs in impairment analysis); Letter from Gil M. Strobel, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 1-10 (filed Jan. 27, 2003) (WorldCom Jan. 27, 2003 *Ex Parte* Letter). Some commenters argue that new entrants' cost disadvantages could make entry unprofitable because incumbent LECs will likely lower prices to a level below entrants' costs (but above incumbent LECs' costs). *See, e.g.*, AT&T Nov. 14, 2002 *Ex Parte* Letter, Attach. at 3-4; WorldCom Jan. 8, 2003 *Ex Parte* Letter, Attach. at 1-5; Letter from Joan Marsh, Director, Federal Government Affairs, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 4-5 (filed Feb. 4, 2003) (AT&T Feb. 4, 2003 *Ex Parte* Letter). *But see, e.g.*, BOC Shelanski Reply Decl. at para. 3 ("Importantly, the case for impairment is not made by a showing that CLECs merely face some costs that are higher than the ILEC's corresponding costs."); SBC Jan. 14, 2003 *Ex Parte* Letter, Attach. 2 at 1-5 (arguing that an incumbent LEC cannot lower retail residential rates to keep out competitors because it serves many residential customers at a loss and relies on higher-end customers to make up the difference), Attach. 2 at 1-3.

[377] *See, e.g.*, Z-Tel Comments, Attach. 4, Z-Tel Public Policy Paper No. 5, *Some Thoughts on Impairment: An Economic Analysis of the Impairment Standard of the 1996 Telecommunications Act*; Z-Tel Reply at 21-25; Z-Tel Ford Reply Decl. at paras. 26-30 ("[I]t seems reasonable that to constitute a statutorily cognizable impairment, there must be a small, but significant and non-transitory decrease in the requesting carrier's output."); Letter from Timothy J. Simeone, Counsel for Z-Tel, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. 1 at 5-7 (filed July 24, 2002) (Z-Tel July 24, 2002 *Ex Parte* Letter).

revenues.[378] Indeed, unbundling when there are only small cost disadvantages is likely to make it more difficult for facilities-based competitors to compete against entrants relying on TELRIC-priced UNEs,[379] and would skew our analysis of marketplace evidence away from examining the presence of facilities-based entrants. Thus, we consider cost disadvantages as they reflect the factors described in our impairment standard, but we will consider them to create an impairment only when they are substantial enough to be likely to make entry into a market uneconomic, taking into consideration available revenues and any countervailing advantages that new entrants may have.[380] Similarly, we cannot agree that *any* cost a new entrant faces that is greater than the relevant TELRIC price necessarily demonstrates impairment.[381] The Supreme Court explicitly rejected this as an approach to impairment, criticizing a standard that equates "*any* increase in cost" to impairment.[382] Likewise, the D.C. Circuit criticized the Commission for "rely[ing] on cost disparities that are universal as between new entrants and incumbents in *any* industry."[383]

113. *Wholesale Market for Alternatives to the Incumbent LECs' Networks.* We disagree that we should continue to require unbundling of a network element until a vibrant wholesale market for that element exists, or that a wholesale market is the best evidence of the feasibility of self-provisioning.[384] First, while this approach might ensure that competitors have

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[378] *See, e.g.*, Verizon Oct. 16, 2002 *Ex Parte* Letter at 5 ("If an entrant's cost of providing an alternative element is higher than the incumbent's, but the entrant nevertheless can profitably do so because it can sell other services, avoid other costs, or achieve qualitative advantages in a way that is not available to the incumbent, the element can be supplied competitively and unbundling cannot be required. The question is whether the entrant can provide an overall service that is competitive, not whether the cost of each input matches that of the incumbent.").

[379] UNEs are priced using the TELRIC methodology. *See Local Competition Order*, 11 FCC Rcd at 15812-929, paras. 618-862. TELRIC prices reflect the forward-looking economic cost of the incumbent LEC's facilities, which take into account the scale and scope economies of the incumbent. *Id.* at 15846-47, para. 679. Thus, if scale economies are present, it would be difficult for an entrant with a small market share to achieve costs as low as the TELRIC price. *See also* BellSouth Comments at 12 ("The Commission's TELRIC pricing requirements effectively imposed an upper limit on what facilities-based carriers could charge, without losing customers to non-facilities-based UNE-P carriers."); SBC Reply at 23.

[380] WorldCom Jan. 27, 2003 *Ex Parte* Letter, Attach. at 7 ("Under existing precedent, therefore, the key objective is to determine *when* cost differences translate into impairment, not to adopt an approach unrelated to cost differences.") (emphasis in original).

[381] *But see, e.g.*, BellSouth Comments at 25; Qwest Comments at 12-14; Verizon Comments at 58 (urging the Commission not to find impairment based on the cost difference between using alternatives to UNEs and using TELRIC-priced UNEs); Allegiance Reply at 11-12 (arguing that TELRIC does not equate to the incumbent LEC's cost); Qwest Reply at 10-11; Verizon Reply at 40.

[382] *Iowa Utils. Bd.*, 525 U.S. at 389 (emphasis in original); *see also* SBC Comments at 34 (arguing that under Supreme Court precedent, cost differentials standing alone cannot constitute impairment).

[383] *USTA*, 290 F.3d at 427 (emphasis in original).

[384] *See, e.g.*, CompTel Comments at 63-64 (arguing that the existence of a wholesale market is "key evidence" in deciding whether to unbundle an element, and that the absence of such a market is "*prima facie*" evidence that self-deployment is not feasible); UNE-P Coalition Comments at 21; SWCTA Reply at 8; *see also* Covad Reply at 12 (arguing that the Commission should assess the state of the wholesale market in applying an HMG analysis as (continued….)

access – either through wholesale alternatives or access to UNEs – we are concerned that this approach might discourage investment in facilities by competitors. As we have emphasized above in our "impair" standard, one of the goals of the Act, impressed on us by the courts, is investment in facilities by both incumbent LECs and new entrants.[385] Second, as we noted in the *UNE Remand Order*, this approach disregards the possibility of self-provisioning as an alternative to using the incumbent LEC's network, contrary to the Supreme Court's direction.[386] Indeed, with regard to certain elements like switching, self-provisioning is far more common than leasing access from another non-incumbent LEC provider. While the record contains substantial evidence of self-deployment, we have little to no evidence of a wholesale market for switching services from alternate vendors.

114. *Evaluating Impairment Based on the Level of Retail Competition*. We do not adopt a standard that asks whether competition (as opposed to competitive carriers) is "impaired"[387] or base our impairment determination on whether the level of retail competition is sufficient such that unbundling is no longer required to enable further entry.[388] As explained above, evidence of retail competition over non-incumbent LEC facilities informs our analysis of whether competitive LECs are impaired without access to UNEs. But some carriers, for example, suggest that we not require any unbundling in markets where competitors have achieved a particular market share, where competitors have a certain number of collocations, or where consumers have a choice of facilities-based providers.[389] We decline to determine impairment based on a certain level of retail competition because section 251(d)(2) requires us to ask whether requesting carriers are "impaired," not whether certain thresholds of retail competition have been met.[390] While it is true that retail competition is a goal of the 1996 Act, it is not the only goal, and a standard that focused exclusively on retail competition would do so at the expense of Congress's other goals, such as investment in new facilities. Moreover, the

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described *supra* para. 109). *But see* Verizon Jan. 10, 2003 *Ex Parte* Letter, Attach. at 8 (arguing that the Act does not require a wholesale market to exist before finding no impairment for switching).

[385] *See supra* Part V.B.1.a; *see also USTA*, 290 F.3d at 427.

[386] *See UNE Remand Order*, 15 FCC Rcd at 3727, para. 56; *see also Iowa Utils. Bd.*, 525 U.S. at 389.

[387] *See* BOC Shelanski Reply Decl. at para. 11.

[388] *Cf.* ITTA Jan. 29, 2003 *Ex Parte* Letter, Attach. at 3-4 (urging Commission not to adopt a multiple-competitor standard); Letter from Ann D. Berkowitz, Project Manager – Federal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 2 (filed Jan. 14, 2003) (Verizon Jan. 14, 2003 *Ex Parte* Letter).

[389] *See, e.g.*, Letter from Karen Brinkmann, Counsel for ACS, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 13-14 (filed Jan. 6, 2003) (ACS Jan. 6, 2003 *Ex Parte* Letter); Letter from Karen Brinkmann, Counsel for ACS, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Jan. 16, 2003) (ACS Jan. 16, 2003 *Ex Parte* Letter). *But see* GCI Jan. 27, 2003 *Ex Parte* Letter, Attach. at 4, 7-8.

[390] *See* 47 U.S.C. § 251(d)(2).

relationship between retail competition and unbundling is complex. In many instances, retail competition depends on the use of UNEs and would decrease or disappear without those UNEs; thus, a standard that takes away UNEs when a retail competition threshold has been met could be circular.[391] While evidence of retail competition over non-incumbent LEC facilities is highly relevant to our impairment analysis as explained above,[392] retail competition that relies on incumbent LEC facilities – whether UNEs, resale, or tariffed services – does less to inform our impairment analysis.[393] We explain in greater detail below why we do not conduct an analysis of individual services, and the levels of competition for those services, below.[394]

115. *Impairment of Individual Requesting Carriers or Carriers Pursuing a Particular Business Strategy.* We will not, as some commenters urge, evaluate whether individual requesting carriers or carriers that pursue a particular business strategy are impaired without access to UNEs.[395] We recognize that section 251(d)(2) refers to "*the* telecommunications carrier seeking access," but such a subjective, individualized approach could give some carriers access to elements but not others, and could reward those carriers that are less efficient or whose business plans simply call for greater reliance on UNEs. Providing UNEs to carriers with more limited business strategies would also disregard the availability of scale and scope economies gained by providing multiple services to large groups of customers.[396] Thus, an entrant is not

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[391] *See, e.g.*, GCI Jan. 27, 2003 *Ex Parte* Letter, Attach. at 1.

[392] *See supra* Part V.B.1.d.(ii); Verizon Jan. 14, 2003 *Ex Parte* Letter, Attach. at 2. Indeed, retail competition from multiple market participants that do not rely on incumbent LEC facilities at all may well demonstrate, as explained above, that barriers to entry in the relevant market at not so high as to make entry uneconomic.

[393] *See supra* para. 102.

[394] *See infra* Part V.B.2.c.

[395] *See, e.g.*, ALTS *et al*. Comments at 37-38; ACS Comments at 2-8 (arguing that that Commission must determine whether each competitor – including small competitive LECs – needs access to UNEs); GCI Comments at 19-20; Z-Tel Comments at 22-24; BellSouth Reply at 13 (arguing that the Commission should require individual competitive LECs to demonstrate both that they are "reasonably efficient" and that alternative elements are not available to them); NewSouth Reply at 11; Z-Tel Reply at 22; BellSouth NERA Reply Decl. at para. 135; Z-Tel Ford Reply Decl. at paras. 24-25; ACS Jan. 6, 2003 *Ex Parte* Letter at 9-11 (urging Commission to find Alaskan competitor not impaired); ACS Jan. 16, 2003 *Ex Parte* Letter (urging Commission to find Alaskan competitor not impaired); Letter from Karen Brinkmann, Counsel for ITTA, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 1 (filed Jan. 27, 2003) (ITTA Jan. 27, 2003 *Ex Parte* Letter). *But see, e.g.*, Qwest Reply at 24-25. The Commission also disagreed with this approach in the *UNE Remand Order*. *See UNE Remand Order*, 15 FCC Rcd at 3725-27, paras. 53-54.

[396] For example, a carrier could claim that it would be unable to pursue a strategy of providing local exchange service to all people with the first name "Sam." Because of the relatively small number of people with that name, the cost of providing such service would likely be very high, and thus entry would be impossible without UNEs. However, an entrant could achieve a much lower average cost of service while serving these people, by pursuing a business strategy of providing service to all potential customers in the market. It might be able to further lower its costs by offering other services, such as vertical features and data services. Our determination is thus based on an entrant providing the full range of services and to all customers supported by the marketplace. Our analysis must, however, take into account diseconomies of scale and scope that might exist, such as limitations on what services customers are willing to purchase as a bundle from a single provider. *But see* BTI Comments at 6 (noting that (continued….)

impaired if it could serve the market in an economic fashion using its own facilities, considering the range of customers that could reasonably be served and the services that could reasonably be provided with those facilities. Furthermore, a carrier- or business plan-specific approach would be administratively unworkable for regulators, incumbent LECs, and new entrants alike because it would require case-by-case determinations of impairment and continuous monitoring of the competitive situation. Finally, we do not read *Verizon* to state the contrary.[397] While *Verizon* noted that smaller entrants may be in greater need of UNEs than larger carriers,[398] the Supreme Court made those factual observations in the context of defending unbundling in general, not in the context of requiring any particular kind of impairment analysis. Thus, we agree with commenters that argue we cannot order unbundling merely because certain competitors or entrants with certain business plans are impaired.[399] Rather, we will achieve needed granularity through consideration of other factors discussed below in Part V.B.2.

116. For similar reasons, we decline to make impairment determinations on an incumbent LEC-by-incumbent LEC basis.[400] The "impair" inquiry of section 251(d)(2) focuses on requesting carriers, not incumbent LECs.[401] We recognize, however, that many aspects of our impairment analysis may coincidentally turn on the incumbent LEC, such as potential revenue opportunities, geographic areas (as explained below in Part V.B.2.b regarding Geographic Granularity), and costs. Likewise, we do not resolve here disputes between particular incumbent LECs and requesting carriers over compliance with the Act and our rules.[402] Such disputes are better handled in an enforcement context, not in a rulemaking.

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competitive LECs cannot compete with incumbent LEC scale economies); Eschelon Comments at 11-14 (noting that a competitive LEC that serves geographically dispersed customers may not be able to construct a duplicative network).

[397] *See* NewSouth Reply at 11; Z-Tel Ford Reply Decl. at para. 24.

[398] *See Verizon*, 535 U.S. at 503 n.20, 510 n.27.

[399] *See* Competitive Enterprise Institute Comments at 3 (cautioning Commission against setting different standards for different carriers); Verizon Comments at 42-43; BOC Shelanski Decl. at para. 39 (pointing out that antitrust law focuses on harms to competition, not harms to individual competitors). *But see, e.g.*, Eschelon Comments at 8 (noting that smaller, newer competitive LECs may face higher hurdles than larger, established competitive LECs).

[400] *See, e.g.*, ACS Jan. 6, 2003 *Ex Parte* Letter at 9-11 (arguing that unbundling is no longer warranted for Alaskan incumbent subject to substantial retail competition).

[401] 47 U.S.C. § 251(d)(2)(B) (The unbundling inquiry asks whether denial of a UNE "would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer.").

[402] *See, e.g.*, Letter from Frederick W. Hitz, III, Director, Rates and Tariffs, General Communication, Inc., to William Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 11, *in* Letter from John T. Nakahata, Counsel for GCI, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Nov. 21, 2002) (GCI Nov. 21, 2002 *Ex Parte* Letter); ACS Jan. 6, 2003 *Ex Parte* Letter at 6-9; Letter from Frederick W. Hitz, III, Director, Rates and Tariffs, General Communication, Inc., to William Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2-10, *in* Letter from John T. Nakahata, Counsel for GCI, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. (continued….)

117. *UNEs As Purely Transitional Measures for Competitive Development.* We recognize, as the Commission did in the *UNE Remand Order*, that in some instances (discussed in greater detail in the Parts on specific UNEs) UNEs can serve as transitions to facilities-based competition.[403] We do not, however, agree with commenters that urge that all UNEs must necessarily be limited to temporary availability.[404] The Act requires incumbent LECs to make an element available so long as requesting carriers would be impaired without it. While we could find impairment to be limited in time based on specific evidence in the record, we could not generally limit UNEs based on speculation that, at some time in the future, competitors might no longer be "impaired." Rather, we will let the facts and evidence guide our determination as to when unbundling obligations can be lifted.

2. Granularity of the Impairment Analysis

118. In this Part, we explain how and why our approach to unbundling will be granular. In the *Triennial Review NPRM*, the Commission asked many questions about whether and how to make the unbundling analysis more granular by considering such factors as specific services, specific geographic locations, the different types and capacities of facilities, and customer and business considerations.[405] Subsequently, the *USTA* decision directed us to approach the section 251(d)(2) impairment analysis by considering "market-specific variations in competitive impairment."[406] As explained in detail below, we will apply several types of granularity in our unbundling analysis, including considerations of customer class, geography, and service.[407] In addition, within our discussions of specific network elements, we will also

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23, 2003) (GCI Jan. 23, 2003 *Ex Parte* Letter). We therefore dismiss as moot the portion of the CompTel Nov. 26, 2001 Joint Conference Petition in which CompTel requests that the Commission not consider lifting unbundling obligations for a UNE unless the incumbent LEC making the request has "fully complied with its obligation to provide the UNE for a commercially reasonable period of time." CompTel Nov. 26, 2001 Joint Conference Petition at 14.

[403] *See UNE Remand Order*, 15 FCC Rcd at 3700-01, paras. 6-7; *see also, e.g.*, New York State Attorney General Reply at 14; Letter from James W. Cicconi, General Counsel and Executive Vice President – Law & Government Affairs, AT&T, to Michael K. Powell, Chairman, FCC, *et al*., CC Docket Nos. 01-338, 96-98, 98-147 at 14-15 (filed Nov. 13, 2002) (AT&T Nov. 13, 2002 *Ex Parte* Letter).

[404] *See* Verizon Comments at 26-27, 70; Verizon Reply at 45, 60; *see also* Alcatel Comments at 21. *But see, e.g.*, California Commission Comments at 15; Eschelon Comments at 17; Maine CLEC Coalition Comments at 7; Colorado Commission Reply at 3-4; Sprint Reply at 14-15; WorldCom Oct. 23, 2002 *Ex Parte* Letter, Attach. at 16.

[405] *Triennial Review NPRM*, 16 FCC Rcd at 22797-98, paras. 34-35.

[406] *USTA*, 290 F.3d at 422.

[407] *See, e.g.*, GCI Comments at 20; BOC Shelanski Decl. at para. 40 (arguing that the Commission should define markets in terms of product and geography); BellSouth Reply at 10 (stating that *USTA* supports the views that "[d]ifferentiated (or 'partial') national unbundling rules are sustainable"; "[t]he Commission is capable of making market differentiations"; and "[a] nuanced concept of impairment requires a consideration of specific markets or market categories"); Ohio Commission Reply at 6; Qwest Reply at 26; SBC Reply at 67-68; BOC Shelanski Reply Decl. at para. 18 (arguing for careful market definition); GCI Nov. 21, 2002 *Ex Parte* Letter, Attach. at 2; ITTA Jan. 27, 2003 *Ex Parte* Letter, Attach. at 1.

inject granularity into our analysis by considering types and capacities of facilities.[408] While some have argued that granularity can only harm competition by making it more difficult for competitors to use UNEs,[409] we find that additional granularity takes into account "the state of competitive impairment in [a] particular market,"[410] and adds the needed "balance" to our unbundling rules that the courts have required.[411] Indeed, doing a granular analysis permits us to distinguish situations for which there is impairment from those for which there is none.[412]

119. We disagree that we should conduct a different impairment analysis for independent incumbent LECs than for BOCs, or that we should formulate different triggers for relief from unbundling obligations for these carriers.[413] Sections 251(c)(3) and 251(d)(2) apply equally to all incumbent LECs, both independents and BOCs,[414] and Congress applied a different standard to BOCs than to independent incumbent LECs in other areas of the 1996 Act, such as section 271.[415] That being said it is possible that our more granular analysis will produce different results in some independent incumbent LEC territories to the extent they are more rural or less densely populated than other territories. However, many rural LECs still retain the exemption from section 251(c)(3) of the Act as required by section 251(f), and as such, will not be subject to those particular unbundling requirements until such time as the exemption is lifted.[416]

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[408] Several commenters urged us to do so. *See, e.g.*, SBC Comments at 32-33.

[409] *See* AT&T Comments at 61-64. *See generally* Illinois Commission Comments at 5.

[410] *USTA*, 290 F.3d at 422.

[411] *Iowa Utils. Bd.*, 525 U.S. at 430 (Breyer, J., concurring); *USTA*, 290 F.3d at 427 (quoting *Iowa Utils. Bd.*, 525 U.S. at 429-30 (Breyer, J., concurring)).

[412] *See, e.g.*, ACS Reply at 4. This granularity may well result in different findings for urban versus rural markets. *See* ACS Jan. 16, 2003 *Ex Parte* Letter (urging Commission to take local Alaskan market conditions into account); ITTA Jan. 27, 2003 *Ex Parte* Letter, Attach. at 2-3 (arguing that the Commission should take the characteristics of independent incumbent LECs into account through a more granular analysis), 5-6 (finding support in section 251(f) for the proposition that Congress intended a market-specific impairment analysis, particularly for rural carriers). We do not in this Order address appropriate rules for state proceedings regarding the rural exemption of section 251(f). *Id.* at 5-6.

[413] *See generally, e.g.*, ACS Jan. 6, 2003 *Ex Parte* Letter; ITTA Jan. 27, 2003 *Ex Parte* Letter, Attach. at 3; ITTA Jan. 29, 2003 *Ex Parte* Letter, Attach.

[414] 47 U.S.C. § 251(c) ("[E]ach incumbent local exchange carrier has the following duties . . . ."); *id.* § 251(d)(2) ("In determining what network elements should be made available for purposes of subsection (c)(3) . . . .").

[415] *Id*. § 271(a) ("Neither a Bell operating company, nor any affiliate of a Bell operating company, may provide interLATA services except as provided in this section.").

[416] *Id*. § 251(f)(1), (2). Section 251(f)(1) involves a conditional exemption from section 251(c) for rural telephone companies, while section 251(f)(2) involves a right of rural carriers with fewer than 2% of the nation's subscriber lines to petition state commissions for suspension and modification of section 251(c) obligations. *Id*. § 251(f)(2).

120. We disagree with commenters that section 251(c)(3)'s reference to "a telecommunications service" means that a granular analysis is unlawful because UNEs must be available for any telecommunications service.[417] As we discuss in more detail in Part V.B.2.c., this argument is no longer consistent with the D.C. Circuit's call for granularity or its affirmation of the Commission's previous service-by-service inquiry.

121. We also disagree with commenters that the only type of granular analysis that would enhance the unbundling rules must be so granular as to be administratively unworkable, and therefore that the Commission should not pursue any granularity at all.[418] Furthermore, commenters argue, any granularity will involve line-drawing that will yield imperfect results – underinclusiveness and overinclusiveness – and will lead to litigation and opportunities for incumbent LECs to interpret rules aggressively in their own favor.[419] We conclude, as explained below, that we can incorporate granularity in an administratively workable fashion that results in meaningful distinctions in our unbundling rules. We cannot analyze each of the countless pieces of equipment in the incumbent LECs' networks individually. As we have stated, the courts have not required such an extreme level of granularity and we find that approach, in any event, administratively infeasible. We recognize, too, that Congress expressed its preference for "deregulation," but we do not agree that a general call for deregulation throughout implementation of the many provisions of the 1996 Act must trump our duty to make the unbundling analysis of section 251 adhere as closely as possible to the *many* goals of the Act by declining to engage in a careful, granular analysis.[420]

122. We also disagree with commenters that argue that the definition of "network element" contained in section 153(29) precludes any unbundling distinctions based on the granularity factors we have determined to examine.[421] The D.C. Circuit has instructed us to perform a more granular analysis.[422] Moreover, it is up to the Commission to determine *which* network elements, as defined by the Commission, must be unbundled. Section 251(d)(2) does not direct us to unbundle all elements in all circumstances. Likewise, section 251(c)(3) does not prevent us from making more granular assessments of unbundling. Section 251(c)(3) indicates *where* network elements must be unbundled (after a section 251(d)(2) analysis results in an

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[417] *See, e.g.*, ASCENT Comments at 28-30.

[418] *See* AT&T Comments at 98-99; CompTel Comments at 75-76; Sprint Reply at 23. *Cf.* ATTWS Comments at 7 (cautioning that too much granularity could make the Commission's rules too complicated and could increase market uncertainty); Dynegy Comments at 5; NewSouth Comments at 51; Qwest Comments at 16-17 (urging the Commission to adopt rules that are easy to administer and predictable); Allegiance Reply at 18, 26 (noting that a fully granular analysis is not possible).

[419] *See* AT&T Comments at 99-106; WorldCom Reply at 21; AT&T Willig Reply Decl. at para. 69. *See generally* NewSouth Comments at 55; SWCTA Comments at 16.

[420] *Cf.* Qwest Comments at 16.

[421] *See* CompTel Comments at 23.

[422] *USTA*, 290 F.3d at 415.

unbundling determination) and says nothing about the impairment finding that creates the unbundling obligations in the first instance.[423]

a. Customer Class Distinctions

123. In this Part, we distinguish broad classes of customers as the first step in introducing granularity into our analysis. We asked in the *Triennial Review NPRM* whether our analysis should consider the type of customer that a requesting carrier seeks to serve.[424] Subsequent to the *NPRM*, customer classes were specifically discussed as a relevant example of granularity in *USTA v. FCC*.[425] We find here that the economic characteristics of the mass market, small and medium enterprise, and large enterprise customer classes can be sufficiently different that they constitute major market segments. Much of our analysis in discussing the individual network elements will be organized around these classes, which may vary slightly from element to element because of the different economic considerations that surround the different elements.[426] These customer classes generally differ in the kinds of services they purchase,[427] the service quality they expect, the prices they are willing to pay, the levels of revenues they generate, and the costs of delivering them services of the desired quality. While our analysis will be performed on a granular level, we will only discuss those distinctions that could yield a difference in our finding of impairment. If different classes of customers have sufficiently similar economic characteristics such that we expect them to yield identical findings of impairment with regard to the network element in question, then we will analyze those classes together.

124. Based on the record before us, it is reasonable to distinguish these three classes of customers – mass market, small and medium enterprise, and large enterprise – for several reasons. These classes can differ significantly based on the services purchased, the costs of providing service, and the revenues generated. Because of these differences, for certain network elements the determination whether impairment exists may differ depending upon the customer class a competing carrier seeks to serve.

125. We reject the argument made by some commenters that distinguishing customers by customer class is either not required by the Act, nor administratively practicable.[428] As

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[423] *See Iowa Utils. Bd.*, 525 U.S. at 391.

[424] *Triennial Review NPRM*, 16 FCC Rcd at 22801-02, paras. 42-44.

[425] *USTA*, 290 F.3d at 422-26.

[426] Where it is appropriate, in our discussion of the individual network elements we will provide an even more granular analysis, examining whether impairment exists in the provision of different services, for different types of customers, located in different geographic areas.

[427] *See supra* Parts VI.A.4.b.(ii)(c) and VI.C.4.c.

[428] AT&T Comments at 97-100; CompTel Comments at 75; Covad Comments at 42; Georgia Commission Comments at 3-4; Illinois Commission Comments at 5; Sprint Comments at 14-17.

discussed earlier, a more granular analysis is required to determine whether competing carriers are impaired in providing the services they seek to provide.[429] Because carriers' impairment could vary by customer class, we are obligated to determine which customers could not be served by carriers without the UNEs in question, and, where practical, require unbundling only for those customers. We also find that distinguishing customers by class is administratively practical in our analysis for many of the network facilities. While we acknowledge that our analysis is limited by the administrative feasibility of performing a particular level of granular analysis, we find that distinguishing customers by class is both convenient and feasible, and increases the granularity of our analysis. It also allows us to examine more carefully whether competing carriers are able to serve small businesses, and determine the unbundling requirements needed to overcome competing carriers' impairment (if any) in serving these customers. We can thus ensure that our rules will bring the benefits of competition to small businesses.

126. We note that in previous orders, such as the *UNE Remand Order*, we found it appropriate to consider the customer classes a requesting carrier seeks to serve when considering whether to unbundle a network element.[430] Distinguishing customers by type is also consistent with our approach in merger orders, such as the *Bell Atlantic/NYNEX Merger Order*, the *SBC/Ameritech Merger Order*, and the *WorldCom/MCI Merger Order*.[431]

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[429] *See supra* Part V.B.2.

[430] *UNE Remand Order*, 15 FCC Rcd at 3737, para. 81 ("[T]he type of customers that a competitive LEC seeks to serve is relevant to our analysis of whether the cost of self-provisioning or acquiring an element from a third-party supplier impairs the ability of a requesting carrier to provide the services it seeks to offer."). This approach was subsequently applied in the *Line Sharing Order*. *Line Sharing Order*, 14 FCC Rcd at 20929, paras. 31-32.

[431] *Application of NYNEX Corp., Transferor, and Bell Atlantic Corp., Transferee, For Consent to Transfer Control of NYNEX Corp. and its Subsidiaries*, File No. NSD-L-96-10, Memorandum Opinion and Order, 12 FCC Rcd 19985, 20016, para. 53 (1997) (*Bell Atlantic/NYNEX Merger Order*); *Applications of Ameritech Corp., Transferor, and SBC Communications, Inc., Transferee, For Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95, and 101 of the Commission's Rules*, CC Docket No. 98-141, Memorandum Opinion and Order, 14 FCC Rcd 14712, 14746, para. 68 (1999) (*SBC/Ameritech Merger Order*); *Application of WorldCom, Inc. and MCI Communications Corp. for Transfer of Control of MCI Communications Corp. to WorldCom, Inc.*, CC Docket No. 97-211, Memorandum Opinion and Order, 13 FCC Rcd 18025, 18040-41, paras. 25-26 (1998) (*WorldCom/MCI Merger Order*). The approach in these merger orders follows that developed in the *LEC Classification Order*, which followed the 1992 Merger Guidelines. *See Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area and Policy and Rules Concerning the Interstate, Interexchange Marketplace,* CC Docket Nos. 96-149, 96-61, Second Report in CC Docket No. 96-149 and Third Report and Order in CC Docket No. 96-61, 12 FCC Rcd 15756, 15773-74, paras. 25-26 (*LEC Classification Order*); *WorldCom/MCI Merger Order*, 13 FCC Rcd at 18040, para. 25. The *Bell Atlantic/NYNEX Merger Order* found three separate customer groups, consisting of residential and small business, medium–sized businesses, and large business and government. *Bell Atlantic/NYNEX Merger Order*, 12 FCC Rcd at 20016, para. 53. In the *WorldCom/MCI Merger Order, SBC/Ameritech Merger Order,* and *Bell Atlantic/GTE Merger Order*, the Commission distinguished mass market consumers from larger business customers in its analysis of the provisioning of local exchange and exchange access services. *WorldCom/MCI Merger Order*, 13 FCC Rcd at 18119, para. 164; *SBC/Ameritech Merger Order*, 14 FCC Rcd at 14746, para. 68; *Application of GTE Corp.,* (continued….)

127. Mass market customers consist of residential customers and very small business customers.[432] Mass market customers typically purchase ordinary switched voice service (Plain Old Telephone Service or POTS) and a few vertical features. Some customers also purchase additional lines and/or high speed data services. Although the cost of serving each customer is low relative to the other customer classes, the low levels of revenue that customers tend to generate create tight profit margins in serving them. The tight profit margins, and the price sensitivity of these customers, force service providers to keep per customer costs at a minimum. Profits in serving these customers are very sensitive to administrative, marketing, advertising, and customer care costs. These customers usually resist signing term contracts.

128. Small and medium enterprises are willing to pay higher prices for telecommunications services than the mass market. Indeed, they are often required to do so under business tariffs. Because their ability to do business may depend on their telecommunications networks, they are typically very sensitive to reliability and quality of service issues. These customers buy larger packages of services than do mass market customers, and are willing to sign term contracts. These packages may include POTS, data, call routing, and customized billing, among other services. Although serving these customers is more costly than mass market customers, the facts that enterprise customers generate higher revenues, and are more sensitive to the quality of service, generally allow for higher profit margins. The higher profit margins and greater emphasis on quality of service can provide a greater incentive to competing carriers to provision their own facilities, and the higher revenues make it easier to cover the fixed costs of installing such facilities.

129. Large enterprises demand extensive, sophisticated packages of services. Reliability of service is essential to these customers, and they often expect guarantees of service quality. The services they might purchase include an internal voice and data network, local, long distance, and international POTS service to one or multiple locations, provisioning and maintenance of a data network such as ATM, frame relay or X.25, and customized billing. The large revenues these customers generate, and their need for reliable service and specialized equipment to serve them, provide a large incentive to suppliers to build their own facilities where possible, and carry these customers' traffic over their own networks.

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Transferor, and Bell Atlantic Corp., Transferee, For Consent to Transfer Control, CC Docket No. 98-184, Memorandum Opinion and Order, 15 FCC Rcd 14032, 14088-89, para. 102 (*Bell Atlantic/GTE Merger Order*).

[432] Very small businesses typically purchase the same kinds of services as do residential customers, and are marketed to, and provided service and customer care, in a similar manner. Therefore, we will usually include very small businesses in the mass market for our analysis. We note, however, that there are some differences between very small businesses and residential customers. For example, very small businesses usually pay higher retail rates, and may be more likely to purchase additional services such as multiple lines, vertical features, data services, and yellow page listings. Therefore, we may include them with other enterprise customers, where it is appropriate in our analysis.

b. Geographic Granularity

130. In the *Triennial Review NPRM*, we sought comment on whether and how to reflect geographic differences in the application of our unbundling standard.[433] The *USTA* decision also found a need for a more granular analysis in general that takes "market-specific variations" into account.[434] As many commenters urge us to do, throughout our application of the analysis to specific elements we will consider whether impairment varies geographically throughout the country.[435] Indeed, several incumbent LECs urge this Commission to adopt an unbundling analysis that is far more granular than that of the *UNE Remand Order*.[436] Such an approach permits us to take the circumstances of rural carriers and the areas they serve into account.[437] In those instances where the record permits us to create unbundling rules that apply nationally – because the result would be the same as if we conducted a separate analysis of each geographic market – we agree with commenters that we should do so.[438] In other instances, we will create rules that will vary in their implementation in different areas of the country. Accordingly, in these circumstances, we may delegate authority to state commissions to ensure

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[433] *See Triennial Review NPRM*, 16 FCC Rcd at 22799-800, para. 39.

[434] *See USTA*, 290 F.3d at 422.

[435] *See, e.g.*, Alcatel Comments at 19-20; GCI Comments at 21; SBC Comments at 30-32; BOC Shelanski Decl. at para. 41; Verizon Reply at 35; Verizon Dec. 17, 2002 *Ex Parte* Letter, Attach. at 2-3.

We do not, however, evaluate in this proceeding whether states have set TELRIC prices at appropriate levels. *See, e.g.*, ACS Jan. 6, 2003 *Ex Parte* Letter (arguing that Alaska Commission has set UNE rates below cost). This proceeding is not the proper forum for such arguments, for which the Act has set up a separate review procedure in section 252(e)(6).

[436] *See* Qwest Reply at 26-27 ("[A] market specific analysis may be necessary to eliminate unbundling obligations in certain markets where it would be feasible for CLECs to obtain network elements from a non-ILEC source . . . . For example, . . . the increased deployment of CLEC transport facilities in certain markets justifies geographic specificity in the unbundling analysis for the dedicated transport network element."); SBC Reply at 67 ("[T]he Commission may not make UNEs available where competitors are already using or should be able to use alternatives to UNEs . . . . With respect to . . . elements [other than switching, transport, and high-capacity loops], it may be true in some areas but not yet in others. For those elements, the Commission *must* adopt a more granular analysis of when to order unbundling.") (emphasis in original); Verizon Reply at 35 ("[A] geographic-specific analysis is necessary, not to determine where CLECs are not impaired, but to identify those few remaining locations where they are impaired."); BellSouth NERA Reply Decl. at para. 136 ("To summarize, the geographic granularity sought by the Commission can be helpful for defining the market within which impairment analysis should be conducted.").

[437] *See, e.g.*, Eschelon Comments at 9 (noting that it services small business customers, which are often not located in downtown areas); Rural Independent Competitive Alliance Comments at 2-3; PACE Coalition Comments on Verizon Forbearance Petition at 6 (filed Sept. 3, 2002); NTCA Reply at 2-3 (arguing that rural areas cannot economically be served by several carriers).

[438] *See* SBC Comments at 32; Allegiance Reply at 4 (noting that the Commission can adopt a national market for some UNEs and disaggregated markets for others); Qwest Reply at 26; WorldCom Reply at 22-23.

that the unbundling rules are implemented on the most accurate level possible while still preserving administrative practicality.[439]

131. We disagree with commenters that urge us not to conduct any geographically-specific analysis or delegate any geographic analysis to the states because, for example, geographically-granular rules will raise the cost of advertising, eliminate the possibility of ubiquitous competitive service, or prove administratively unworkable.[440] In some cases, it is not possible for us to adopt nationally-applicable rules that adhere to the *USTA* court's call for additional granularity.[441] Indeed, where we do defer analysis to the states, we expect they will

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[439] *Cf., e.g.*, ASCENT Comments at 32-33 (urging the Commission to permit the states to handle any location-specific analysis); BellSouth Comments at 23 (arguing that the Commission should use MSAs in all instances); California Commission Comments at 12-13 (noting geographic differences in competition); Covad Comments at 84 (noting that the Commission cannot likely do a geographically-specific analysis); Florida Commission Comments at 2-3; GCI Comments at 22-23 (urging caution in aggregating geographic areas); New York Department Comments at 5; NuVox Comments at 52 (urging the Commission to involve the states in any geographically-specific analysis); Qwest Comments at 16-17 (arguing that geographic markets smaller than MSAs are probably unworkable); Texas Commission Comments (urging strong role for states); UNE Platform Coalition Comments at 27-32 (urging Commission to permit states to have substantial role); Allegiance Reply at 4 (urging Commission to delegate loop and transport analysis to states), 25 (noting difficulties of generalizing markets); BellSouth Reply at 12 (urging use of MSA); Talk America Reply at 14-17 (arguing that only the states can make sufficiently granular rules); WorldCom Reply at 23-24; BellSouth NERA Reply Decl. at para. 125 (urging use of MSA); Covad Murray Reply Decl. at paras. 14-16 (noting that the Commission needs state help to do a geographically granular analysis); Letter from Russell M. Blau, Counsel for Lightship Telecom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 1 (filed June 28, 2002) (Lightship June 28, 2002 *Ex Parte* Letter) (arguing that MSAs are too large for meaningful granularity); GCI Nov. 21, 2002 *Ex Parte* Letter, Attach. at 11-12.

Thus, even in those circumstances where the record contains substantial evidence regarding market conditions in some localities, the Commission may determine that state commissions are better poised to assess local impairment through hearings or other fact-finding procedures. *But see* ACS Jan. 16, 2003 *Ex Parte* Letter (urging Commission to make a finding of no impairment for Alaskan markets). We also do not address ACS's request for forbearance contained within a written *ex parte* presentation, as this is a rulemaking proceeding. Parties remain free to file petitions for forbearance that comply with our rules. 47 C.F.R. § 1.53.

Covad has pointed out that if we adopted the HMG as our "impair" standard, it would require us to define a geographic market for our analysis. *See* Covad Reply at 10; *see also* BellSouth NERA Reply Decl. at paras. 123-24 (noting that HMG could form basis of granular analysis). We take this lesson of geographic granularity from the HMG without adopting the HMG wholesale, as explained above. *See supra* Part V.B.1.d.(iii).

[440] *See, e.g.*, Sprint Comments at 5, 14-15; WorldCom Comments at 63; Mpower Reply at 17-18; AT&T Willig Reply Decl. at paras. 67-68 (arguing that a national unbundling list is "deregulatory" in the sense that it is simpler and leads to less regulatory involvement). *But see* BellSouth NERA Reply Decl. at para. 127 (noting that ubiquity and a granular analysis are not compatible).

[441] *But see, e.g.*, Arch Wireless Reply at 6, 11, 18 (arguing that paging and CMRS carriers need national unbundling rules).

achieve a much finer delineation of impairment from non-impairment than what we could do nationally.[442]

c. Service Considerations

132. In this Part, we describe how we will use a service-specific framework to analyze the circumstances under which competitors qualify for access to UNEs. We adopt an approach that is consistent with the goals of the 1996 Act because it obligates incumbent LECs to provide access to UNEs only when requesting carriers seek to use those elements to compete against those services that traditionally have been the exclusive domain of incumbent LECs. As we explain below, Congress created the section 251 unbundling regime to foster competition in the incumbent LECs' core markets. Moreover, we set forth an approach that is consistent with the guidance we have received from the D.C. Circuit in the *USTA* and *CompTel* decisions.[443]

133. Under the approach we adopt today, a requesting carrier may access UNEs for the purpose of providing "qualifying services," as we define them below. Once a requesting carrier satisfies this condition, we reaffirm the Commission's existing rules that permit the carrier to use a UNE to provide additional services including non-qualifying telecommunications services and information services.[444] We reiterate that requesting carriers must be telecommunications carriers that seek to use the UNE to provide common carrier services, rather than private carrier services.

(i) Legal Background and Authority

134. Section 251(d)(2) sets forth the standard by which the Commission is to determine what network elements should be unbundled. Congress directed the Commission to consider whether "the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the *services* that it seeks to offer."[445] In earlier orders, the Commission generally approached the unbundling analysis with

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[442] Likewise, we do not agree that we must unbundle everywhere so that requesting carriers can enter "ubiquitously," and that requiring unbundling in locations where there is no impairment will do no harm. *See, e.g.*, Sprint Comments at 15-16; SWCTA Comments at 16-17. *But see* BellSouth Comments at 26; Qwest Comments at 13; Verizon Reply at 37-39, 47; BOC Shelanski Decl. at para. 4. Because unbundling has costs as well as benefits, we determine to unbundle elements only where they meet our "impair" standard. *See USTA*, 290 F.3d at 422; *see also, e.g.*, SBC Reply at 22-23, 33. *But see, e.g.*, WorldCom Comments at 49 (noting that competitive LECs cannot build a totally ubiquitous network); AT&T Reply at 55 (noting that inability to provide service ubiquitously contributes to impairment by limiting the number of customers over which overhead costs can be spread); Talk America Reply at 6, 36 (arguing that competitive LECs will prefer to use their own facilities when possible).

[443] *See USTA*, 290 F.3d at 422-30; *CompTel*, 309 F.3d at 12-16.

[444] In Part VII.B. below, we describe that, with respect to high-capacity facilities over which several types of services may be provided (*i.e.*, local, long distance, or Internet access), we determine that certain eligibility requirements must be satisfied to ensure that these facilities are being used for a qualifying service.

[445] 47 U.S.C. § 251(d)(2)(B) (emphasis added). The statute also requires the Commission to consider whether "access to such network elements as are proprietary in nature is necessary." 47 U.S.C. § 251(d)(2)(A). That prong (continued….)

regard to all telecommunications services, rather than the specific types of services a requesting carrier sought to provide over an element.[446] More recently, the Commission began to take the service provided by a requesting carrier into account, but did not do so in a comprehensive and consistent fashion.[447] Instead of adopting an overall framework applicable to all UNEs, the Commission focused only on how the UNE was being used in the context of specific elements. In this Order, although we decline to adopt a service-by-service impairment framework, we conclude that only requesting carriers providing certain qualifying services are entitled to UNEs.

(ii) Qualifying Services

135. We find that, in order to gain access to UNEs, carriers must provide qualifying services using the UNE to which they seek access. By "qualifying," we mean those telecommunications services offered by requesting carriers in competition with those telecommunications services that have been traditionally the exclusive or primary domain of incumbent LECs. They include, for example, local exchange service, such as POTS, and access services, such as xDSL and high-capacity circuits.[448]

136. In determining which types of service qualify for UNEs, we first look to the text of the 1996 Act. Because the text of the Act does not provide unambiguous direction, we consider the structure and history of the relevant portions of the Act, including its stated purposes, and interpret the statute to reach a reasonable conclusion regarding Congress's intent. Ultimately, we rely upon the purposes of the Act to support the interpretation that a permissible use of a network element must include a qualifying component.

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of section 251(d)(2) does not include a reference to the "services that [the requesting carrier] seeks to offer." However, the same rationale applies to proprietary network elements as to non-proprietary network elements with respect to Congress's intent regarding when network elements would be available for requesting carriers. In fact, Congress intended a higher standard – when access to the element is necessary, not just when a carrier is impaired without access to the element – to govern the availability of proprietary network elements. Therefore, there is no reason to differentiate between proprietary and non-proprietary network elements with respect to the services for which they can be used. In any event, we do not analyze any proprietary elements in this Order, so consideration of which services will be provided using those UNEs is not necessary.

[446] *UNE Remand*, 15 FCC Rcd at 3911-12, para. 484; *Local Competition Order*, 11 FCC Rcd at 15671-72, para. 356.

[447] *See, e.g.*, *Supplemental Order Clarification* 15 FCC Rcd at 9598, para. 21 (usage restrictions applied to only EELs, not all UNEs). In the *Triennial Review NPRM*, the Commission sought comment on whether the unbundling analysis should be applied to specific services. *Triennial Review NPRM*, 16 FCC Rcd at 22798-99, para. 36. In a Public Notice issued following the *Supplemental Order Clarification*, the Commission also requested comment on whether it should undertake to conduct its impairment analysis on a service-by-service or market-by-market basis, and if so, how. *Comments Sought on the Use of Unbundled Network Elements to Provide Exchange Access Service*, CC Docket No. 96-98, Public Notice, DA 01-169 (rel. Jan. 24, 2001) (*Exchange Access Public Notice*). The Commission also asked whether the service-specific approach should be applied to all aspects of the section 251(d)(2) analysis or just the "impairment" prong. *Triennial Review NPRM*, 16 FCC Rcd at 22798-99, para. 36.

[448] These services must be offered on a common carrier basis, as explained below.

137. First, we note that section 251(d)(2)'s reference to the "services that [the carrier] seeks to offer" is ambiguous as to the question of which services we should analyze in the context of our impairment analysis.[449] Despite prior interpretations to the contrary, in the *Supplemental Order Clarification* the Commission concluded that this language was indeed ambiguous, and determined to examine section 251(d)(2)'s reference to "services" as part of the impairment analysis.[450] In the context of considering whether requesting carriers could lease UNEs *solely* to provide exchange access or long distance services,[451] the Commission noted that section 251(d)(2)'s "services" language likely would limit the conversion of special access to combinations of loop and transport UNEs:

> [Section 251(d)(2)] asks whether denial of access to network elements "would impair the ability of the telecommunications carrier seeking access to provide *the services that it seeks to offer*." Although ambiguous, that language is reasonably construed to mean that we may consider the markets in which a competitor "seeks to offer" services and, at an appropriate level of generality, ground the unbundling obligation on the competitor's entry into those markets in which denial of the requested elements would in fact impair the competitor's ability to offer services.[452]

138. We agree with the conclusion that the term "services" in section 251(d)(2) is ambiguous. Although Congress may have intended "services" in section 251(d)(2) to mean "telecommunications services" as used in section 251(c)(3), even this interpretation does not necessarily resolve the ambiguity concerning the scope of the section 251(d)(2) inquiry. While "telecommunications services" is more specific than "services," and thus limits the inquiry somewhat, we are still left to question which "telecommunications services" should be subject to the unbundling analysis.[453] Some parties have argued that section 251(d)(2) requires the Commission to analyze every telecommunications service using the impairment standard, and, that such a review would result in the unavailability of UNEs for most services except possibly

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[449] *Supplemental Order Clarification*, 15 FCC Rcd at 9595, para. 15; *USTA*, 290 F.3d at 422.

[450] *Supplemental Order Clarification*, 15 FCC Rcd at 9596, para. 15.

[451] *CompTel*, 309 F.3d at 11, 14.

[452] *Supplemental Order Clarification*, 15 FCC Rcd at 9595, para. 15 (footnotes omitted) (emphasis in original). Although the Commission in the *Supplemental Order Clarification* generally referred to use of a UNE in the provision of exchange access services, special access services, or long distance services, it is clear that the Commission was concerned about use of a UNE without appropriate consideration under the impair standard for how the UNE was to be used. *Supplemental Order Clarification*, 15 FCC Rcd at 9595-96, 9602, paras. 15-16, 28. Later in this Part, we specifically distinguish between the provision of exchange access services as part of a retail long distance service and the wholesale provision of exchange access services in competition with the incumbent LEC's special access services. As a result, issues raised in the *Exchange Access Public Notice* are either no longer relevant or resolved in this Order.

[453] 47 U.S.C. § 251(c)(3) (emphasis added).

local voice services.[454] Yet other parties argue that the Commission should not consider the particular services that a carrier seeks to offer at all, provided it seeks to offer a telecommunications service.[455] On this point, the D.C. Circuit observed that "[b]y referring to the 'services that [the requesting carrier] seeks to offer,' [Congress] seems to invite an inquiry that is specific to *particular* carriers and services."[456] Thus, we conclude that the language of section 251(d)(2) is ambiguous concerning the scope of the impairment inquiry.

139. An examination of the purposes behind the Act provides us with guidance as to the scope of section 251(d)(2). In passing the 1996 Act, Congress substantially changed many aspects of federal regulation of telecommunications services by establishing a "pro-competitive, de-regulatory national policy framework" designed to benefit all Americans "by opening all telecommunications markets to competition."[457] As its preamble notes, the Act was designed "to promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid development of new telecommunications technologies."[458] In particular, section 251's role in this regulatory scheme involves opening local markets to competition.[459] Indeed, Congress recognized that "it is

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[454] Under these commenters' proposed analysis, requesting carriers would not be impaired without UNEs for those services for which sufficient retail competition exists. BellSouth Comments at 30-31, 34; SBC Comments at 21 ("[P]rior to ordering unbundling, the Commission must carefully scrutinize the service market in which the carrier that seeks to purchase the UNE intends to provide service. And, if 'the very concept of impairment' is to be 'intelligible,' it cannot permit unbundling where the service at issue is competitive."); Verizon Comments at 39-40.

[455] *See, e.g.*, ASCENT Comments at 28-29 ("Section 251(c)(3), accordingly, requires application of the unbundling analysis on a functionality-by-functionality basis, not on a service-by-service, or customer-by-customer, or carrier-by-carrier basis."); ATTWS Comments at 17 (arguing that a service-specific analysis would violate the plain language of the Act); California Commission Comments at 14; CompTel Comments at 52-54 (arguing that when a competitor buys a UNE, it pays for the entire functionality; a usage limitation would diminish the UNE's value); Illinois Commission Comments at 5; Maine CLEC Coalition at 6-7; Missouri Commission Comments at 8; NewSouth Comments at 52; Norlight Comments at 10; NuVox Comments at 45. We deny, in part, the petition for reconsideration filed by CompTel requesting that the Commission reconsider its decision to allow use restrictions for the reasons we explain in this section. Competitive Telecommunications Association Petition for Reconsideration, CC Docket No. 96-98 (filed Feb. 17, 2000) (CompTel Feb. 17, 2000 Petition for Reconsideration).

[456] *CompTel*, 309 F.3d at 12-13 (emphasis added).

[457] Joint Conference Report at 1.

[458] Preamble to the 1996 Act.

[459] *Id.*; *see also Local Competition Order,* 11 FCC Rcd at 15506, para. 4 ("Competition in local exchange and exchange access markets is desirable, not only because of the social and economic benefits competition will bring to consumers of *local* services, but also because competition eventually will eliminate the ability of an incumbent local exchange carrier to use its control of bottleneck local facilities to impede free market competition."). *See, e.g.*, Letter from Herschel L. Abbott Jr., Vice President – Government Affairs, BellSouth, to Michael K. Powell, Chairman, FCC, CC Docket No. 01-338 at 2, *in* Letter from Jonathan Banks, General Attorney, BellSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 2 (filed Dec. 19, 2002) (BellSouth Dec. 19, 2002 *Ex Parte* Letter) (stating that Congress intended the Act "to provide competitive alternatives for basic wireline local (continued….)

unlikely that competitors will have a fully redundant network in place when they initially offer *local service* . . . [and] some facilities capabilities (*e.g.*, central office switching) will likely need to be obtained from the incumbent local exchange carrier as network elements pursuant to new section 251."[460] As the Commission noted in the *Local Competition Order*, under the 1996 Act, "the opening of one of the last monopoly bottleneck strongholds in telecommunications – the local exchange and exchange access markets – to competition is intended to pave the way for enhanced competition in all telecommunications markets, by allowing all providers to enter all markets."[461] We find that a reasonable interpretation of the statute is that our impairment inquiry should center on those telecommunications services that competitors provide in direct competition with the incumbent LECs' core services, which we call "qualifying services."[462]

140. As stated above, by "qualifying services," we mean those telecommunications services offered by requesting carriers in competition with those telecommunications services that have been traditionally within the exclusive or primary domain of incumbent LECs.[463] These services, whether they are sold to residential or business customers, include, for example, local exchange services, such as POTS and local data service[464], and access services, such as xDSL[465] and high-capacity circuits.[466] Parties have asked us to clarify whether CMRS would

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exchange service."); HTBC Comments at 41 ("Section 251 was intended to promote competition in a voice telephony market when [incumbent LECs] have market power and where no competitive alternatives to [incumbent LECs'] networks existed . . .").

[460] Joint Conference Report at 148 (emphasis added).

[461] *Local Competition Order*, 11 FCC Rcd at 15506, para. 4.

[462] *See* Letter from John J. Heitmann, Counsel for NuVox, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 3 (filed Jan. 15, 2003) (NuVox Jan. 15, 2003 *Ex Parte* Letter) (referencing the type of services it provides indicates NuVox "intends to and does compete with the Bells and other ILECs head on in the provision of LEC services.").

[463] Our determination in this Part moots the issues the Commission raised in the *Shared Transport Order*. *See Implementation of the Local Competition Provisions of the Telecommunications Act of 1996,* CC Docket No. 96-98, Third Order on Reconsideration and Further Notice of Proposed Rulemaking, 12 FCC Rcd 12460, 12494-96, paras. 60-61 (1997) (*Shared Transport Order*) *aff'd*, *Southwestern Bell Tel. Co. v. FCC*, 153 F.3d 597 (8th Cir. 1998) (affirming the Commission's decision that shared transport is a network element regardless of the fact that shared transport can be used only when combined with switching), *vacated*, *Ameritech Corp. v. FCC*, 526 U.S. 1142 (1999), a*ff'd in part on reh'g*, *Southwestern Bell Telephone Co*., 199 F.3d 996 (8th Cir. 1999) (reissuing its affirmation of the Commission's determination that shared transport is a network element but vacating and remanding for further consideration the issue of whether shared transport must be made available on an unbundled basis).

[464] Letter from John J. Heitmann, Counsel for NuVox, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 2 (filed Jan. 23, 2003) (NuVox Jan. 23, 2003 *Ex Parte* Letter) (noting that a point-to-point local service comprises "data transmission between two points within a designated local calling area.").

[465] Although the D.C. Circuit vacated the Commission's conclusion that xDSL service is a "telephone exchange service" or "exchange access service," as defined in the Act, these services are currently regulated as "access services" as defined by the Commission's rules. *WorldCom v. FCC*, 246 F.3d 690 (D.C. Cir. 2001); *see also GTE Telephone Operating Cos., GTOC Tariff No. 1, GTE Transmittal No. 1148,* CC Docket No. 98-79, Memorandum (continued….)

qualify for the use of a UNE.[467] We find that because CMRS are used to compete against telecommunications services that have been traditionally within the exclusive or primary domain of incumbent LECs services, CMRS providers also qualify for access to UNEs, subject to the limitations described herein.[468]

141. We find that our interpretation of sections 251(c)(3) and 251(d)(2) is the most reasonable because it ensures that the powerful regulatory tools made available through those provisions are focused on opening the bottleneck markets largely controlled by incumbent LECs. Given that unbundling is one of the most intrusive forms of economic regulation – and one of the most difficult to administer – it is unlikely that Congress intended to apply unbundling more generally absent an unambiguous mandate. Although we recognize that the Act's general purpose is to open all telecommunications markets to competition, section 251 of the Act is designed to achieve that goal in markets for local exchange services. Therefore, we believe it is more appropriate to interpret section 251(c) and (d) as applying to only those services that compete directly against traditional incumbent LEC services.

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Opinion and Order, 13 FCC Rcd 22466 (1998). For example, some carriers file access tariffs containing certain types of xDSL services, such as ADSL and SDSL. *See, e.g.*, National Exchange Carrier Association Tariff FCC No. 5, § 8; Sprint Local Telephone Co. Tariff FCC No. 3, § 8.5; Roseville Tariff FCC No. 1, § 9.1. We note that commenters, including incumbent LECs, do not dispute that xDSL service is appropriately considered in our section 251 impairment analysis. BellSouth Comments 36-44; HTBC Comments at 40-42; SBC Comments at 22-23 (arguing that, under the impairment analysis, carriers should not receive access to UNEs for xDSL-based broadband services). *But see* Qwest Comments at 42 (noting that some "new network facilities" that can be used to provide xDSL "fall outside the scope of the market-opening objectives of section 251."); Verizon Comments at 71; Letter from William P. Barr, Executive Vice President and General Counsel, Verizon, to Michael K. Powell, Chairman, FCC, CC Docket No. 01-338 at 5, *in* Letter from Ann D. Berkowitz, Project Manager – Federal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Nov. 22, 2002) (Verizon Nov. 22, 2002 *Ex Parte* Letter).

[466] These services must be offered on a common carrier basis, as explained below. Our list is intended to identify general categories of services that would qualify as eligible services. It is not intended to be an exhaustive list or to identify services in a more particular manner. Rather, we believe this list should provide adequate guidance for parties to determine whether a service qualifies or not. *See* NuVox Comments at 55-56. In contrast, "non-qualifying" are those services not traditionally provided exclusively by incumbent LECs. Among others, they would include long distance voice services and data services provided on an interexchange basis.

[467] ATTWS Comments at 23-24; CTIA Comments at 3-7; Nextel Comments at 2; *see also* ATTWS and VoiceStream Petition for Declaratory Ruling, CC Docket No. 96-98 at 5-6 (filed Nov. 19, 2001) (ATTWS/VoiceStream Nov. 19, 2001 Petition); *Triennial Review NPRM*, 16 FCC Rcd at 22809-10, para. 63. On the other hand, some commenters argue that wireless providers should not be able to obtain access to UNEs. *See* BellSouth Comments at 46-53; SBC Comments at 24.

[468] We grant the portion of the ATTWS/VoiceStream Nov. 19, 2001 Petition requesting that the Commission declare that CMRS providers are entitled to access to UNEs, as long as the CMRS provider meets the requirements outlined throughout this Order. ATTWS/VoiceStream Nov. 19, 2001 Petition at 6; *see also* Progress Telecom Comments at 6 ("Nothing in the Communications Act . . . even remotely suggests that a requesting carrier must use the standalone UNEs for the provision of *wireline* services in order to obtain them from the incumbent LECs.").

142. We disagree with those commenters that argue that section 251(d)(2) compels us to conduct an analysis of every possible service that a requesting carrier might want to offer.[469] Because section 251(d)(2)'s edict is far from clear, the Commission can use its discretion to reasonably interpret the statute.[470] Only if the statute were unambiguous would the Commission be compelled to undertake such an analysis as suggested by commenters.

143. *Use of UNEs for Non-Qualifying Services.* In the *Triennial Review NPRM*, the Commission sought comment on whether, if a network element is unbundled for one service, its availability should be limited to that service or whether requesting carriers should be able to use it for any service.[471] We conclude that, once a requesting carrier has obtained access to a UNE to provide a qualifying service, as defined above, the carrier may use that UNE to provide any additional services, including non-qualifying telecommunications and information services. This approach to the use of the network element, which maximizes the use of a network element once an unbundling decision has been made, is most consistent with the concerns raised by the *USTA* court regarding the "costs" associated with unbundling in the first instance.[472] In other words, once the Commission has determined to impose "the costs associated with mandatory unbundling" upon an incumbent LEC, it would be wasteful for the network element not to be put to its maximum use.

144. As discussed above, a requesting carrier must use a network element to provide a qualifying service in order to obtain unbundled access to that network element.[473] Section 251(c)(3) requires that incumbent LECs must provide UNEs to requesting carriers "for the provision of a telecommunications service."[474] Even if we presume that Congress may have intended "services" in section 251(d)(2) to mean "telecommunications services" as used in section 251(c)(3), as we noted above, this interpretation does not necessarily resolve the ambiguity regarding whether mixed use of UNEs is permissible. However, a reasonable interpretation of the Act, and an examination of its purposes, leads us to the conclusion that, when a UNE can be used to provide multiple services, Congress did not intend to require that UNEs be used exclusively to provide qualifying telecommunications services.

145. We note that section 51.100(b) of the Commission's current rules allows mixed use of UNEs.[475] We reaffirm this rule here. Moreover, the Commission's EELs rules were

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[469] SBC Reply at 61-67.

[470] *Chevron U.S.A., Inc. v. Natural Resources Defense Council*, 467 U.S. 837, 843 (1984).

[471] *Triennial Review NPRM*, 16 FCC Rcd at 22799, para. 38.

[472] *USTA*, 290 F.3d at 429.

[473] These services also must be offered on a common carrier basis, as explained below.

[474] 47 U.S.C. § 251(c)(3).

[475] 47 C.F.R. § 51.100(b) ("A telecommunications carrier that has interconnection or gained access under sections 251(a), 251(c)(2), or 251(c)(3) of the Act, may offer information services through the same arrangement, so long as it is offering telecommunications services through the same arrangement as well.").

affirmed by the D.C. Circuit, and those rules permit a variety of services to be provided over this combination of network elements so long as a "significant amount of local exchange service" is also provided.[476] Generally, commenters do not contest these rules; instead, they debate how much local service should be required and what conditions should be placed upon that usage (*e.g.*, a collocation requirement).[477] We ensure below, through our impairment analysis and related eligibility requirements, that our decision permitting the use of UNEs for services other than qualifying services does not lead to the "gaming" of our rules. Those issues will be addressed later in this Order within the impairment analysis for each particular UNE.

146. Allowing requesting carriers to use UNEs to provide multiple services on the condition that they are also used to provide qualifying services will permit carriers to create a package of local, long distance, international, information, and other services tailored to the customer. Offering packages of services in one integrated offering is a marketing method increasingly utilized by incumbent LECs to sell end users their array of available services.[478] The record shows that carriers must have sufficient flexibility in how they package service offerings to customers in order to be able to fully participate in the telecommunications market.[479] Limiting competitive LECs' use of UNEs to qualifying services only would likely affect their ability to meaningfully compete against incumbent LECs.[480] Moreover, such an interpretation would hamper a competitive LEC's ability to provide innovative service packages to customers, a result that would directly undermine the Act's explicit goal of encouraging

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[476] *CompTel*, 309 F.3d at 12-18.

[477] *See*, *e.g.*, Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 1 (filed Dec. 19, 2002) (Qwest Dec. 19, 2002 EELs *Ex Parte* Letter) (proposing mixed use as long as 51% of traffic is local voice).

[478] Illinois Commission Comments at 3; Verizon Reply, Attach. B, Reply Declaration of Alfred E. Kahn and Timothy J. Tardiff (Verizon Kahn/Tardiff Decl.) at para. 39 (stating that Verizon has "long agreed with [AT&T's] position that carriers need to offer packages of services if they are to compete successfully.").

[479] CompTel Comments at 55-56; Illinois Commission Comments at 3; LDMI Comments at 17; NewSouth Communications Comments at 54-55; NuVox Comments at 56.

[480] We note that SBC has argued specifically that requesting carriers should not be allowed to use shared transport for intraLATA toll traffic. SBC Comments at 81-84; SBC Reply at 141-42; *But see* ALTS *et al*. Reply at 94-96 (responding in opposition to SBC on this point). SBC notes that some competing carriers that have purchased the shared transport UNE to provide local exchange service have asserted that they should be permitted to use it for intraLATA toll service as well. SBC Comments at 81 (citing a formal complaint, *CoreComm Communications, Inc. and Z-Tel Communications, Inc. v. SBC Communications, Inc. et al.,* EB-01-MD-017 (Aug. 28, 2001)). As we have previously indicated, the ability to compete in offering intraLATA toll services affects a competing LEC's ability to compete in the local market. *See SBC Communications Inc. Apparent Liability for Forfeiture*, File No. EB-01-IH-0030, Forfeiture Order, 17 FCC Rcd 19923, 19931-32, para. 15 (2002) (citing *Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as amended, to Provide In-Region, InterLATA Services in Michigan*, CC Docket No. 97-137, Memorandum Opinion and Order, 12 FCC Rcd 20543, 20738-40, paras. 377-78 (1997)). Under our decision here, once a requesting carrier gains access to the shared transport UNE to provide local service, the requesting carrier may also use it to provide *any* additional services, regardless whether those services are qualifying or non-qualifying. Accordingly, in light of the discussion above, we reject SBC's argument.

innovation.[481] As the Commission stated in the *Local Competition Order*, Congress intended the opening of local markets "to pave the way for enhanced competition in *all* telecommunications markets, by allowing all providers to enter all markets."[482] To limit competitors' use of UNEs to *only* qualifying services would force requesting carriers to either continue to provide services on a stand-alone basis, contrary to the market trend, or even more perversely, to provide a package of services over duplicative networks or through duplicative network configurations.[483] Either result would effectively preclude a competitor's ability to compete in the market, especially in a market in which the market leader – the incumbent LEC – is not similarly constrained.

147. Allowing the use of UNEs in this manner is similar to the approach the Commission adopted in its *Collocation Remand Order* for multi-functional equipment.[484] In that Order, the Commission required incumbent LECs to allow the collocation of competitive LEC equipment that contained functions that would not meet the standard as stand-alone functions, recognizing that "allowing the collocation of multi-functional equipment is critical to the realization of Congress's goal of promoting competition and technical innovation."[485] The Commission acknowledged that competitive LECs must be able to realize the same productivity increases that developments in new technologies offer.[486] For these reasons, the Commission found that as long as the primary function satisfies the requisite collocation test, the other functions are also permitted.[487] Here, we follow a similar rationale. Our approach ensures that a UNE is used for appropriate purposes but also recognizes that the market and end users may benefit from the use of the UNE to provide additional services. Furthermore, as a practical matter, if we did not allow carriers to use UNEs to provide services in addition to qualifying services, we would effectively limit a requesting carrier's ability to use innovative multi-functional collocation equipment. Carriers would be able to collocate multi-functional

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[481] Preamble to the 1996 Act; *see also* 47 U.S.C. § 157 nt ("The Commission . . . shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans.").

[482] *Local Competition Order*, 11 FCC Rcd at 15506, para. 4.

[483] The same analysis applies in this context as in the commingling context. AT&T claims that the commingling ban creates a competitive barrier because it effectively requires competitive LECs to establish two parallel networks – one for local traffic and one for access traffic. AT&T Reply at 293. Furthermore, while it is theoretically possible to require a regime of differentiated pricing under which qualifying traffic would be priced at TELRIC and other traffic would be priced at market rates, such a regime would require undue policing of customer usage and would be administratively impractical and burdensome.

[484] *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Fourth Report and Order, CC Docket No. 98-147, 16 FCC Rcd 15435, 15454, para. 36 (2001) (*Collocation Remand Order*), *aff'd sub. nom. Verizon Telephone Cos. v. FCC*, 292 F.3d 903 (D.C. Cir. 2002).

[485] *Collocation Remand Order*, 16 FCC Rcd at 15453, para. 33.

[486] *Id*.

[487] *Id*. at 15454, para. 36. The Commission placed certain physical restrictions of the equipment allowed for other functions. *Id.*

equipment, as allowed by the *Collocation Remand Order*, but, under a rule restricting the use of UNEs, would be unable to use of all of the equipment's permitted functions.[488]

148. We disagree with commenters that state that the Act prohibits the use of UNEs for information services.[489] Section 251(c)(3) states that incumbent LECs have a duty "to provide, to any requesting telecommunications carrier for the provision of a telecommunications service, nondiscriminatory access to network elements on an unbundled basis."[490] The statute does not require that access be provided *exclusively* for telecommunications services. We note, in fact, that this statutory interpretation is consistent with Congress's intent to open existing markets served by incumbent LECs to competitive entry. As the foregoing discussion explains,[491] competitive LECs are providing integrated telecommunications and information service offerings in direct competition with the incumbent LEC provision of these services.[492] Moreover, such a rule may prohibit the packaging of services that would be considered advanced telecommunications capabilities, but are not telecommunications services themselves, thus conflicting with the goals of the Act.[493] We reasonably infer that a competitor may use a UNE to provide a broader category of services, provided that the competitor is, in fact, also providing qualifying service over the UNE.[494]

149. *Requesting carriers must offer a service on a common carrier basis*. Finally, we affirm that, in order to gain access to a UNE under section 251(c)(3), a requesting carrier must provide a "telecommunications service," and specifically a qualifying telecommunications service, over that UNE.[495] It cannot, for example, qualify for UNEs to the extent it provides exclusively private carrier services or information services.[496] Section 251(c)(3) uses the term "telecommunications service" and both sections 251(c)(3) and (d)(2) use the term "telecommunications carrier" to define the scope of the unbundling obligation.[497]

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488 CompTel Comments at 55-56.

489 Next Level Comments at 13 n.26; SBC Comments at 22; Verizon Comments at 71-81; SBC Reply at 88-112.

490 47 U.S.C. § 251(c)(3).

491 *See* Part IV.B.1.

492 *See* NuVox Jan. 15, 2003 *Ex Parte* Letter at 3.

493 *See* 47 U.S.C. § 157 nt ("The Commission . . . shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans.").

494 This issue is discussed further in Part VII.B.

495 47 U.S.C. § 251(c)(3).

496 This issue is discussed further in Part VII.B.

497 47 U.S.C. §§ 251(c)(3) and (d)(2).

150. The Act defines "telecommunications service" as "the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used,"[498] and defines "telecommunications carrier" as "any provider of telecommunications services."[499] The Commission has interpreted "telecommunications services" to mean services offered on a common carrier basis, and the D.C. Circuit has affirmed that interpretation.[500] Thus, to obtain access to a UNE, a requesting carrier must use the UNE to provide at least some services on a common, rather than private, carriage basis. We note that this provision of the Act is not ambiguous. Thus, Congress's use of "telecommunications service" in section 251(c)(3) has a clear meaning defined by the Act.

151. We find that the Act evokes an implicit tradeoff. In exchange for obtaining UNEs, a requesting carrier must not only provide services that compete head-to-head against the incumbent LEC, but must do so on a basis that ensures that the benefits of competition accrue to the general public. We find that it is reasonable to interpret the Act in a manner that ensures the availability of UNEs is not boundless and is appropriately limited to the furtherance of clear statutory purposes.[501]

152. Generally stated, a common carrier holds itself out to provide service on a non-discriminatory basis.[502] A private carrier, on the other hand, decides for itself with whom and on what terms to deal.[503] Common carrier status has been assessed by the Commission and the courts by the application of the two-part *NARUC* test: (1) whether the carrier "holds himself out

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[498] *Id*. § 153(46).

[499] *Id*. § 153(44).

[500] *See AT&T Submarine Systems, Inc.*, File No. S-C-L-94-006, 11 FCC Rcd 14885 (1996) (*AT&T Submarine Systems*), *appl. for rev. denied*, *AT&T Submarine Systems, Inc.*, 13 FCC Rcd 21585 (1998), *aff'd sub nom. Virgin Islands Tel. Corp. v. FCC*, 198 F.3d 921 (D.C. Cir. 1999).

[501] It is also fundamentally fair that carriers that choose to escape some of the regulation necessary to become a common carrier do not have the same benefits available to those carriers that do bear those burdens.

[502] *See AT&T Submarine Systems*, 11 FCC Rcd at 14885; *see also* 47 U.S.C. § 153(10) ("The term 'common carrier' or 'carrier' means any person engaged as a common carrier for hire, in interstate or foreign communication by wire or radio . . . .").

[503] *See Southwestern Bell Telephone v. FCC*, 19 F.3d 1475, 1481 (D.C. Cir. 1994) ("If the carrier chooses its clients on an individual basis and determines in each particular case 'whether and on what terms to serve' and there is no specific regulatory compulsion to serve all indifferently, the entity is a private carrier for that particular service and the Commission is not at liberty to subject the entity to regulation as a common carrier" citing *National Ass'n. of Regulatory Utility Commissioners v. FCC*, 533 F.2d 601, 608-09 (1976) (*NARUC II*); *National Ass'n of Regulatory Utility Commissioners v. FCC*, 525 F.2d 630, 643 (1976) (*NARUC I*)).

to serve indifferently all potential users"; and (2) whether the carrier allows customers to "transmit intelligence of their own design and choosing."[504]

153. Common carrier services may be offered on a retail or wholesale basis because common carrier status turns not on *who* the carrier serves, but on *how* the carrier serves its customers, *i.e.*, indifferently and to all potential users. For example, residential local voice services typically are both retail services and common carrier services because they are sold to end users through generally available offerings. Carriers that offer residential local voice services do not generally make individualized decisions whether and on what terms to deal with their customers. Likewise, although access services are wholesale offerings when sold to other carriers, they also are common carrier services when offered indifferently to all members of a particular class of customers. For example, if a carrier tariffed an access offering and made it available to other carriers as an input for their retail interexchange service, such access service would be a common carrier service. In contrast, the self-provision of access services used solely as an input to provide a retail interexchange service does not qualify as the provision of exchange access on a common carriage basis. Instead, in that instance, the carrier is providing exchange access to itself on a private carriage basis. Therefore an interexchange carrier would not be eligible to obtain a UNE exclusively to provide exchange access to itself in order to provide a retail interexchange service.

3. Implicit Support Flows

a. Background

154. In the *USTA* decision, the D.C. Circuit addressed the question of implicit support flows and their relationship to the Commission's decision making under section 251. The court concluded, among other things, that the Commission had not adequately explained its decision to adopt nationwide unbundling requirements in light of the implicit support flows found in telecommunications rates.[505] In this Part, we explain how our new impairment standard will address the concerns voiced by the D.C. Circuit and describe the nature and extent of existing implicit support flows.

155. In reaching the conclusion that the Commission's explanation was inadequate, the court expressed concerns about the Commission's approach to unbundling both in areas where the incumbent LEC's retail rates may exceed its costs (presumably referring to historic costs) and in areas where incumbent LEC retail rates may be below cost, although the court raised different concerns in each case. The court noted that "[c]ompetitors will presumably not be drawn to markets where customers are already charged below cost," although it recognized that

[504] *NARUC II*, 533 F.2d at 608-09. Commission and court precedent provides guidance as to the characteristics of common carrier services. *Id.; NARUC I*, 525 F.2d at 644.

[505] *USTA*, 290 F.3d at 422-23. In the *Iowa Utilities Board* decision, the Supreme Court had previously rejected BOC arguments concerning implicit support flows, noting that "[section] 254 requires that universal-service subsidies be phased out, so whatever possibility of arbitrage remains will be only temporary." *Iowa Utils. Bd.*, 525 U.S. at 393-94.

competitors might be drawn to such areas if the new entrant could sell complementary services at prices high enough to offset the low local exchange rates.[506] While questioning entry into the higher cost markets, the court found the "gap in the Commission's reasoning . . . greatest" in requiring unbundling "in the other segments of the markets, where presumably ILECs must charge *above* cost . . . in order to offset their losses in the subsidized markets . . . ."[507] As explained below, however, the granular impairment analysis we adopt today, by focusing on the economic and operational viability of entry in different market segments, provides for a modification of the impairment standard that addresses these concerns, while supplying the detailed explanation the *USTA* court sought.

156. As the D.C. Circuit noted, the rates for telecommunications services historically have included implicit support flows between different classes of customers and geographic areas. In general, as the court recognized, these implicit support flows have tended to result in rates that are lower than they otherwise would be for residential and rural customers and rates that are higher than they otherwise would be for business and urban/suburban customers.[508] These implicit support flows still exist in many of the rates regulated by the state commissions, including those for local exchange service, intrastate exchange access, and intrastate toll rates. Such implicit support flows have also traditionally been found in the rates for interstate exchange access, and interstate toll service[509] subject to the Commission's regulatory jurisdiction.[510] Implicit support flows have traditionally been justified as supporting the universal availability of

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[506] *USTA*, 290 F.3d at 422. Thus, as the court suggested, even where the rate for an individual customer service offering may not cover the incumbent LECs' fully distributed historical book cost, that does not mean that such customers as a group are unprofitable or undesirable to serve.

[507] *Id.* (emphasis in original).

[508] *Id*.

[509] These implicit support flows result, in large part from rate averaging between rural and suburban/urban areas and the recovery of certain non-traffic sensitive costs through traffic sensitive per minute rates, which over-recovers costs from higher volume users, often business customers. *See generally*, *Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Low-Volume Long Distance Users, Federal-State Joint Board On Universal Service*, CC Docket Nos. 96-262, 94-1, 99-249, 96-45, Sixth Report and Order in CC Docket Nos. 96-262 and 94-1, Report and Order in CC Docket No. 99-249 and Eleventh Report and Order in CC Docket No. 96-45, 15 FCC Rcd 12962, 12971-72, para. 23 (2002) (*CALLS Order*) *aff'd in part, rev'd in part, and remanded in part sub nom*. *Texas Office of Public Utility Counsel v. FCC*, 265 F.3d 313 (5th Cir. 2001). The court affirmed the *CALLS Order* in most respects, but remanded for further analysis and explanation the decisions to size the Interstate Access Support (IAS) mechanism at $650 million and to adopt the 6.5 % "X-factor."

[510] The original Communications Act of 1934 established a bifurcated system for the regulation of telecommunications, generally leaving the regulation of communications that originated and terminated within the same state to the state commissions, while this Commission regulated communications that originated and terminated in different states, except in the case of multi-state local exchange areas. *See* 47 U.S.C. §§ 152(b)(2), 221(b). The 1996 Act also gives various responsibilities concerning the implementation of the local competition provisions to this Commission. *Iowa Utils. Bd.*, 525 U.S. at 378. In addition, section 253 requires the Commission to preempt state and local requirements that "prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service." 47 U.S.C. § 253(a), (d).

local exchange telephone service at affordable rates, and ensuring reasonable interexchange toll rates for customers in all parts of the country.

157. Despite relatively widespread agreement on such broad general statements concerning implicit support flows,[511] this area is more complex than it might initially appear. The existence of "below cost" residential local exchange service rates does not mean that such customers are "unprofitable" to serve. Determining whether a customer class is desirable to serve[512] requires a comparison of costs and all potential revenues for the class, which will substantially exceed the local exchange service rate.[513] In addition, describing certain rates as being "above or below cost" itself involves complex questions concerning how costs should be defined. In the context of implicit support flows, describing a rate as "below cost" typically means that the rate is lower than the incumbent LEC's fully distributed historical cost of providing service.[514] This definition of "cost" does not necessarily provide a valid basis for comparison since in a fully competitive market, firms would typically price a service offering at long run incremental cost, which in the telecommunications industry may be considerably lower than fully distributed historical cost.[515] Moreover, telecommunications prices are not static, and will change over time in response to increased competition.[516]

158. Recognizing the potential effect of implicit support flows on the development of competition, the 1996 Act addresses this issue in section 254. This provision directs the Commission, after consultation with the Joint Board, to establish specific, predictable, and

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[511] *But see* AT&T Willig Reply Decl. at paras. 50-56; WorldCom Reply at 26-27; WorldCom Reply, Declaration of Daniel Kelley (WorldCom Kelley Reply Decl.) at paras. 60-64.

[512] Even if the class as a whole is not desirable to serve, certain categories of customers within the larger class will typically be desirable based on their usage patterns or cost characteristics.

[513] Residential customers typically take a number of different services from their LEC in addition to local exchange service. These include vertical features, as well as federal and state access charges typically paid to the local exchange service provider unless the service is provided through resale, in which case the incumbent LEC would receive the access charge revenues. *See Local Competition Order*, 11 FCC Rcd at 15646-47, para. 292. The LEC may also receive explicit support payments, and provide the customer with long distance service and Internet access service.

[514] It is worth noting that, except for smaller incumbent LECs and some mid-sized incumbent LECs, both the Commission and state regulators have generally moved from traditional rate-base/rate-of-return regulation to the use of "price cap" or "incentive" type regulation for telecommunications rates, which does not involve a direct link between cost showings and rate levels. Under price cap or incentive type regulation, for example, a regulated carrier's rates may be frozen for a period of time or subject to periodic adjustments that reflect factors such as the rate of inflation, historic productivity gains and certain cost changes deemed to be beyond the carrier's control.

[515] In addition, economic theory does not provide a clear answer to the question of how joint and common and fixed costs should be allocated for costing purposes. This is particularly problematic in the telecommunications industry due to the very high proportion of joint and common costs and fixed costs.

[516] *See, e.g.*, AT&T Willig Reply Decl. at para. 60.

sufficient federal support mechanisms to preserve and advance universal service.[517] In particular, section 254(e) states that federal support mechanisms "should be explicit and sufficient to achieve the purposes of this section."[518] At the same time, section 254(b) establishes a list of principles that the Commission must use in establishing its policies for the preservation and advancement of universal service, including the principle that consumers in rural, insular, and high-cost areas should have access to telecommunications services at rates that are "reasonably comparable to rates charged for similar services in urban areas."[519] In fact, section 254(g) of the Act requires nationwide averaging of interstate toll rates.[520] In addition, section 254(f) provides that the "[s]tate[s] may adopt regulations not inconsistent with the Commission's rules to preserve and advance universal service."[521]

159. The extent of interstate implicit support flows has decreased substantially since passage of the 1996 Act. In response to section 254, the Commission has taken a number of major steps to remove implicit support flows from interstate access charges and develop federal universal service support mechanisms that are portable, *i.e.*, available not only to the incumbent local exchange carrier, but also to other qualifying local exchange carriers. These measures are intended to make universal service support compatible with the increasingly competitive marketplace for telecommunications.

160. In the *CALLS Order*, the Commission adopted a five-year transitional interstate access and universal service reform plan for price cap carriers.[522] The Commission's decision was intended to "[reform] our interstate access charge regime to identify implicit universal service support and to remove such implicit support from our interstate access charges, and . . . [establish] new universal service mechanisms."[523] At the same time, the *CALLS Order* "keeps rates affordable in high cost areas, by replacing the subsidies with explicit interstate access universal service support."[524] In particular, the order "creates an explicit interstate access universal service support mechanism . . . to replace the implicit support, and makes interstate

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[517] 47 U.S.C. § 254.

[518] *Id*. § 254(e).

[519] *Id*. § 254(b)(3).

[520] *Id*. § 254(g); 47 C.F.R. § 64.1801.

[521] 47 U.S.C. § 254(f). The Commission has not interpreted section 254 as requiring the elimination of implicit support flows contained in state rates.

[522] The *CALLS Order* reforms apply only to price cap carriers. The Commission previously reformed interstate access charges in the 1997 *Access Charge Reform Order*. *Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing, End User Common Line Charges*, CC Docket Nos. 96-262, 94-1, 91-213, 95-72, First Report and Order, 12 FCC Rcd 15982 (1997).

[523] *CALLS Order*, 15 FCC Rcd at 12973, para. 25.

[524] *Id*. at 12975, para. 32.

access universal service support fully portable among eligible telecommunications carriers."[525] The Commission also reformed the interstate access charge regime and universal service support for rate-of-return carriers in the 2001 *MAG Order*.[526] The Commission has also taken steps to reform pre-existing universal service support mechanisms in light of section 254.[527]

161. While it would be difficult, if not impossible, to accurately quantify the implicit support flows that remain in state rates, it appears that substantial intrastate support flows remain. This is true even though some states have engaged in rate "rebalancing" in light of the developing competitive environment.[528] At the same time, under the current system of federal/state jurisdiction for telecommunications regulation, the primary responsibility for regulating rates for intrastate telecommunications services[529] rests with the state commissions and is largely beyond our jurisdiction. Thus, under the system of dual federal/state jurisdiction, the states are generally responsible for adjusting the rates for intrastate services to promote consumer welfare and competition.

162. We also note that the vast majority of incumbent telephone companies may qualify for an exemption from, or modification or suspension of the Commission's unbundling requirements under section 251(c) with the result that the scope of the issues posed by implicit support is further limited. In particular, section 251(f)(1) contains an exemption from the Commission's unbundling requirements for rural telephone companies, which provides that

> [s]ubsection (c) of this section [the unbundling requirements] shall not apply to a rural telephone company until (i) such company has received a bona fide request for interconnection, services, or

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[525] *Id.*

[526] *Multi-Association Group (MAG) Plan for Regulation of Interstate Services of Non-Price Cap Incumbent Local Exchange Carriers and Interexchange Carriers*, CC Docket No. 00-256, Second Report and Order and Further Notice of Proposed Rulemaking, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Fifteenth Report and Order, *Access Charge Reform for Incumbent Local Exchange Carriers Subject to Rate-of-Return Regulation*, CC Docket No. 98-77, Report and Order, *Prescribing the Authorized Rate of Return From Interstate Services of Local Exchange Carriers*, CC Docket No. 98-166, Report and Order, 16 FCC Rcd 19613 (2001), *recon. pending* (*MAG Plan Order*).

[527] *See, e.g.*, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Ninth Report and Order and Eighteenth Order on Reconsideration, 14 FCC Rcd 20432 (1999) (*Ninth Report and Order*), *remanded sub nom*. *Qwest Corp. v. FCC*, 258 F.3d 1191 (10th Cir. 2001). The *Ninth Report and Order* established a federal high-cost universal service support mechanism for non-rural carriers based on forward-looking economic costs. *Id*. at 20434-35, para. 2. The Commission is considering the Joint Board's recommendations regarding the remand of the *Ninth Report and Order*. *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Recommended Decision, 17 FCC Rcd 20716 (2002).

[528] *See*, *e.g.*, Covad Reply at 52-53 (creation of intrastate universal service fund in California).

[529] As previously discussed, the 1996 Act gives the Commission a role in establishing the principles to be used in setting rates for UNEs and the discounts that apply to services when they are ordered for the purpose of resale. *See generally supra* note 510.

> network elements, and (ii) the State commission determines . . . that such request is not unduly economically burdensome, is technically feasible, and is consistent with section 254 . . . .[530]

Section 251(f)(2) also provides for suspensions and modifications of the requirements of section 251(b) and (c), which includes unbundling obligations, for "local exchange carrier[s] with fewer than 2 percent of the Nation's subscriber lines installed in the aggregate nation-wide" in certain circumstances.[531] Only the BOCs and Sprint exceed the 2 percent standard and thus would not be eligible to seek relief under the provisions of this section.[532]

b. Discussion

163. As explained below, by focusing on the economic and operational viability of entry in different market segments, our revised impairment standard addresses the issue of implicit support flows in a manner that is responsive to the concerns raised in the D.C. Circuit's *USTA* decision. At the same time, we conclude that the statute is best interpreted as giving the Commission considerable discretion to address the relationship between implicit support flows and our impairment analysis. In particular, the statute does not specify how the Commission is to address this issue, although it does contain a number of provisions that relate to the existence of implicit support flows. For example, Congress addressed issues related to implicit support flows in section 254 of the Act, but chose not to include language addressing how the existence of implicit support flows should factor into our impairment analysis. In addition, the statute allows the state commissions to limit the extent of unbundling, and thereby address possible issues arising from unbundling and implicit support flows, for all but the largest incumbent LECs. In particular, section 251(f)(1) and (2) provide for an exemption from section 251(c) requirements for rural carriers, and permit suspension or modification of the section 251(c) requirements for carriers serving, in the aggregate, less than two percent of the nation's access lines.[533] Moreover, section 271, which governs BOC in-region, interLATA entry, requires that they provide local loops, local switching and local transport on an unbundled basis throughout their service areas without regard to the existence of implicit support flows.[534] Thus, we

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[530] 47 U.S.C. § 251(f)(1). Section 153(37) defines a rural telephone company. 47 U.S.C. § 153(37).

[531] *Id*. § 251(f)(2).

[532] *Trends in Telephone Service May 2002 Report* at 8-5.

[533] Thus, while the Commission has not interpreted the statute to require the development of comparable explicit support mechanisms at the state level, sections 251(f)(1) and (2) effectively permit the states to address the relationship between unbundling and implicit support flows in state rates by allowing the state commissions to limit unbundling for all but the largest incumbent LECs. This provision as well shows that Congress provided for mechanisms other than the impairment standard for the handling of implicit support flows.

[534] 47 U.S.C. § 271(c)(2)(B)(iv), (v), (vi). As discussed below, we interpret the "unbundling" requirement in section 271 to require that the network elements enumerated in the competitive checklist be priced based on the pricing standards in sections 201 and 202 of the Communications Act when they are not required to be unbundled pursuant to section 251(c)(3). *See infra* Part VIII.A.

conclude that the Act leaves the Commission with substantial discretion to address the appropriate relationship between implicit support flows and network unbundling within the confines of reasoned decision-making.

164. As explained below, the impairment standard adopted by the Commission and reflected in the more granular state commission proceedings mandated by this Order addresses the existence of implicit support flows in several ways. In general terms, the new impairment standard provides that a requesting carrier is deemed to be impaired when lack of access to an incumbent LEC network element poses a barrier or barriers to entry, including operational and economic barriers that are likely to make entry into a market uneconomic.[535] In reaching this determination, our new impairment standard generally provides for consideration of any advantages as well as disadvantages that will be experienced by competitive LECs. Our impairment standard also provides for consideration of whether entry is economic by taking into account the potential revenue opportunities available.

165. In determining whether impairment exists, the Commission finds that actual marketplace evidence is the most persuasive and useful evidence, especially information concerning whether new entrants have deployed their own facilities or obtained wholesale facilities from entities other than the incumbent LEC for use in providing competitive retail services. While such market evidence will be given substantial weight, it is not necessarily conclusive or presumptive of a particular outcome without additional information. The Commission will also consider evidence of intermodal competition, when it is presented in the record.

166. Our impairment standard is unlikely to result in unwarranted unbundling in the case of areas and services for which local exchange rates generally exceed the incumbent LEC's costs. In fact, the services in urban areas and the enterprise services, which have tended to be priced "above" the incumbent LEC's "costs" have generally been the first areas to attract competitive entry,[536] probably due to the relatively high revenue opportunities available. Thus, these areas and services are the ones for which marketplace evidence of facilities-based competitive entry is most likely to warrant a finding of no impairment. Our impairment standard also generally provides for consideration of advantages experienced by new entrants as well as the barriers to entry that they encounter. Thus, our impairment standard will take into account circumstances in which the incumbent sets certain retail rates "above" its "cost," in order to provide support for other areas or services with retail rates that are "below cost," although we recognize that such rates are likely to change in response to competitive entry.[537] As a result, our impairment standard, which will be reflected in the granular analysis that the state commissions apply, will generally tend to reduce the likelihood of a finding of impairment in the case of areas

[535] *See* Part V.B.1.d. *supra*.

[536] *See supra* Part IV; *see also* Allegiance Reply at 23.

[537] *See supra* note 516.

and services for which prices are "above" the incumbent LEC's cost, and thus tend to reduce the extent of unbundling required in those areas.

167. Significantly, to the extent that incumbent LECs are required to make UNEs available pursuant to our impairment standard in the case of areas or services for which rates are "above cost," it will be based on an affirmative finding of impairment.[538] At the same time, such unbundling in "above cost" areas will tend to create pressure for the incumbent LECs[539] and state regulators to reduce or eliminate implicit support flows,[540] and establish rates that more closely reflect costs in conjunction with explicit support mechanisms. Insofar as unbundling in such areas brings about pressure for reductions in "above cost" rates, it should not be a matter for regulatory concern unless an incumbent LEC's overall earnings for telecommunications services fall below confiscatory levels.[541] This result is consistent with the Commission's long-standing support for movement toward cost-based rates and explicit support mechanisms.[542] It would also be in harmony with the general goals of section 254(b) for reform of interstate universal service support flows.

168. Furthermore, our impairment standard, which will be reflected in the granular analysis that the state commissions apply, should not produce unreasonable effects in areas and

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[538] Retail rates that exceed the incumbent's cost of providing service will not necessarily result in facilities-based competitive entry. Rather, competitors are likely to base entry decisions on whether all potential revenues exceed the cost of entry, taking into consideration any countervailing advantages a new entrant may have. *See*, *e.g.*, WorldCom Reply at 27; AT&T Willig Reply Decl. at para. 61; WorldCom Kelley Reply Decl. at para. 64. In addition, even in such areas, new entrants may initially choose not to enter on a facilities-basis due to the very high fixed costs involved.

[539] Incumbent LECs will generally have flexibility to reduce rates appropriately in response to competition.

[540] *See generally* Qwest Reply at 13 (state rate rebalancing); Sprint Reply at 9 n.11 (state rate rebalancing).

[541] *Permian Basin Area Rate Cases*, 390 U.S. 747, 767 (1968).

[542] The Commission has long supported federal rule changes designed to reduce implicit support flows and reflect cost causation principles in conjunction with explicit support mechanisms to protect universal service. The Commission began implementing such changes in the early and mid-1980s when it adopted measures to reform the jurisdictional separations process, which divides incumbent LEC costs between state and interstate operations, and adopted a system of interstate access charges which included a flat-rate end-user charge. For information concerning the initial steps in jurisdictional separations reform, see *Amendment of Part 67 of the Commission's Rules*, CC Docket No. 80-286, Decision and Order, 96 FCC 2d 781 (1984) *adopting* Second Recommended Decision and Order, 48 Fed. Reg. 46556 (Joint Board 1983), *aff'd sub nom. Rural Telephone Coalition v. FCC*, 838 F.2d 1307 (D.C. Cir. 1988). For information concerning the Commission's access charge plan *see*, *e.g.*, *MTS and WATS Market Structure*, CC Docket No. 78-72, Third Report and Order, 93 FCC 3d 241 (1983); *modified on recon.*, 97 FCC 2d 682, (1984), *modified on recon*. 97 FCC 2d 834 (1984), *aff'd in principal part and remanded in part sub nom, NARUC v. FCC*, 737 F.2d 1095 (D.C. Cir. 1984), *cert denied*, 469 U.S. 1227 (1985); *MTS and WATS Market Structure* and *Amendment of Part 67 of the Commission's Rules*, CC Docket Nos. 78-72, 80-286, Decision and Order, 50 Fed. Reg. 939 (1985), *adopting* Recommended Decision and Order, 49 Fed. Reg. 48325 (Joint Board 1984); *MTS and WATS Market Structure* and *Amendment of Part 67 of the Commission's Rules*, CC Docket Nos. 78-72, 80-286, Report and Order, 2 FCC Rcd 2953 (1987), *adopting* Recommended Decision and Order, 2 FCC Rcd 2324 (1987).

for services where local exchange rates are "below" the incumbent's "cost" of providing service. We recognize that "below cost" local exchange rates will tend to discourage competitive facilities-based entry, and that the absence of such entry will be considered as evidence of impairment. Our impairment standard, however, also provides for consideration of evidence concerning the full range of revenue opportunities available to carriers providing service over the relevant facilities. Thus, retail local exchange rates that are "below cost" do not mean that competitive entry will necessarily be uneconomic since a competitor will base entry decisions on a comparison of its costs and the full range of available revenue opportunities, not solely the local exchange rate.[543] Moreover, new entrants using alternative technologies may have lower costs than the incumbent LEC even when UNE rates are set at reasonable levels. Competitive entry under these circumstances would benefit consumers by increasing choice.[544]

169. Were our impairment standard to require unbundling for services and areas with "below cost" rates where actual competitive entry does not take place, little harm would result. As previously mentioned, the statute contains an exemption from the unbundling requirements for rural carriers and provides for state modification or suspension of the unbundling requirements for incumbent carriers serving, in the aggregate, less than two percent of the nation's access lines.[545] Thus, the state commissions are fully able to prevent any problems that they believe might result from unbundling requirements in these circumstances. Even without this statutory provision, little harm is likely to result in the event of unbundling requirements in situations where competitors do not actually enter the market.[546]

C. The "Necessary" Standard

170. Section 251(d)(2) requires the Commission, in making its unbundling determination, to consider whether "access to such network elements as are proprietary in nature is necessary."[547] In the *UNE Remand Order*, the Commission gave this interpretation of the "necessary" standard:

> We conclude that a proprietary network element is "necessary" within the meaning of section 251(d)(2)(A) if, taking into consideration the availability of alternative elements outside the incumbent's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack

[543] For example, a new entrant may offer a premium product or service package designed to be attractive to customers even when priced well above the incumbent LEC's rate for local exchange service.

[544] *See, e.g.*, Allegiance Reply at 22.

[545] 47 U.S.C. § 251(f)(1), (2).

[546] Until a competitor requests UNEs, most of the smaller incumbent LECs need to do little other than stand ready to negotiate in good faith. The BOCs and the larger independent incumbent LECs will already have incurred the full cost of developing and providing UNEs where entry has taken place.

[547] 47 U.S.C. § 251(d)(2)(A).

> of access to that element would, as a practical, economic, and operational matter, *preclude* a requesting carrier from providing the services it seeks to offer.[548]

171. In the *Triennial Review NPRM*, the Commission sought comment on whether to change the interpretation of "necessary" that was set forth in the *UNE Remand Order*.[549] We decline to change that interpretation.[550] The D.C. Circuit did not remand to us or vacate the "necessary" standard or instruct us to consider it further.[551] Particularly given how rarely the "necessary" standard is invoked as compared with the "impair" standard (indeed, in this Order we do not analyze any elements under the "necessary" standard), we find no reason to alter course.

D. "At a Minimum"

172. Section 251(d)(2) provides that "the Commission shall consider, *at a minimum*, whether . . . the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer."[552] In reviewing our interpretation of that phrase under the *UNE Remand Order*, the D.C. Circuit found no fault with the Commission's determination that this language allows the Commission to consider factors other than those specified in subparagraphs (A) and (B) of section 251(d)(2) when determining whether or not to require unbundling. With regard to the Commission's authority to "consider other elements," the court stated, "[w]e assume in favor of the Commission that that is so."[553] But the court cautioned restraint, recognizing that any use of

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[548] *UNE Remand Order*, 15 FCC Rcd at 3721, para. 44 (emphasis in original). The Commission also set forth a definition of "proprietary," which was not challenged in *USTA v. FCC* and is not at issue in this proceeding. *See id*. at 3716-20, paras. 32-40.

In the *UNE Remand Order*, the Commission only found two instances where an element could be considered proprietary and thus susceptible to unbundling under the necessary standard. The Commission found that Ameritech's routing tables in switches "may be proprietary," *Id*. at 3806, para. 247, but the Commission applied the "impair" standard rather than the "necessary" standard because those routing tables were unlikely to distinguish Ameritech's service from its competitors', and because withholding access to the routing tables would jeopardize competition. *Id.* at 3807, paras. 250-51. The Commission also found that services created in the AIN platform and architecture were "proprietary," but found that they were not "necessary," and therefore did not unbundle them. *See id.* at 3875, para. 402, 3881-82, paras. 418-20.

[549] *See generally Triennial Review NPRM*, 16 FCC Rcd at 22790-91, paras. 18, 21.

[550] *See* ALTS *et al*. Comments at 26-27; Eschelon Comments at 6-7; NuVox Comments at 21.

[551] *See generally USTA*, 290 F.3d at 415.

[552] 47 U.S.C. § 251(d)(2) (emphasis added).

[553] *USTA*, 290 F.3d at 425. The court's discussion was premised on the Commission's determination in the *UNE Remand Order* that additional factors could be used to assess unbundling, whether as a further limitation on unbundling despite the presence of impairment, or as a justification of unbundling in the absence of evident impairment. *UNE Remand Order*, 15 FCC Rcd at 3745, para. 101.

factors in addition to impairment must be reasonably and responsibly tied to the statute. The court stated, "to the extent that the Commission orders access to UNEs in circumstances where there is little or no reason to think that its absence will genuinely impair competition . . . we believe it must point to something a bit more concrete than its belief in the beneficence of the widest unbundling possible."[554]

173. Consistent with the admonition of the courts that we not extend the unbundling obligations more widely than required to fulfill the purposes of the Act, we apply the phrase "at a minimum" in section 251(d)(2) with appropriate restraint. In this Order, we have not required the unbundling of any network element in the absence of impairment. Although we continue to find that section 251(d)(2), by its express terms, permits us to consider, where appropriate, "other" factors closely tied to the purposes of the statute in reaching an unbundling determination,[555] we have not found on this record any other factors that would require unbundling in the absence of impairment. We have, however, used this authority to inform our consideration of unbundling in contexts where some level of impairment may exist, but unbundling appeared likely to undermine important goals of the 1996 Act.[556] Specifically, in our analyses of fiber-to-the-home (FTTH) and hybrid loops, we have considered the goal set forth in section 706 of the Act, that the Commission "shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans,"[557] as well as the

[554] *Id.*

[555] Many commenters urge us to affirm this approach. *See* BellSouth Comments at 26-28; CompTel Comments at 29; GCI Comments at 29; HTBC Comments at 42; NuVox Comments at 33-35; SBC Comments at 11-12, 18, 21-22 (arguing that the Commission should take into account the goals of encouraging facilities-based competition, the deployment of advanced technologies, and protecting competition where it already exists); Verizon Comments at 26; HTBC Reply at 20; Qwest Reply at 18; *see also* UNE Platform Coalition Comments at 24 (urging Commission to take public interest into account in unbundling analysis); SBC Reply at 50 (urging Commission to examine whether unbundling will benefit or harm "competition" in particular circumstances). *But see* AT&T Comments at 41-43 (arguing that the Commission cannot consider whether unbundling would be harmful to competition, and that unbundling necessarily promotes competition and facilities-investment); CompTel Comments at 25 (arguing that the Commission can fully satisfy section 251(d)(2) by considering only "impair"), 26-27 (arguing that consideration of section 706 could only lead the Commission to order unbundling in the absence of impairment), 28-30 (arguing that "at a minimum" can only be used to order unbundling in the absence of impairment).

[556] Thus, we disagree with commenters that suggest that we cannot, consistent with the Act, consider whether unbundling will deter investment or whether unbundling is consistent with the goals of section 706. *See* Allegiance Comments at 11-12; ALTS *et al*. Comments at 29-35; CompTel Comments at 18, 27-28. We do not read section 251 in isolation, but in the larger context of the 1996 Act, including all its expressed purposes such as those contained in section 706. Indeed, the courts require as much. *See Iowa Utils. Bd.*, 525 U.S. at 388 (requiring the Commission "to apply *some* limiting standard, rationally related to the goals of the Act," as it considers "necessary" and "impair") (emphasis in original); *USTA*, 290 F.3d at 425 (urging the Commission to engage in some analysis of the trade-offs between unbundling and investment incentives).

[557] The Act defines "advanced telecommunications capability" "without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology." *Id.* § 157 nt (c)(1). The Commission considers services with upstream and downstream speeds in excess of 200 kbps to display "advanced telecommunications capability." *Third Section 706 Report 2002*, 17 FCC Rcd at 2850, para. 9.

(continued….)

presence of intermodal competition. In sum, we will continue to weigh other factors that may be relevant to a particular unbundling determination, but we will do so with an eye to the specific goals of the Act, as the D.C. Circuit has indicated we may do.

174. We reject arguments that the Commission can only use the "at a minimum" language to decline to unbundle despite impairment in order to remain faithful to the courts' admonitions to find a "limiting standard" for unbundling or that the Commission must decline to unbundle if unbundling would frustrate other Congressional goals.[558] First, we note that Congress did not specify what it meant by "at a minimum"; thus we disagree that the meaning of the phrase is not subject to interpretation. In addition, as explained above, we find that it is reasonable to interpret the phrase to permit the Commission to make unbundling determinations in light of the Act's many and conflicting goals, not just goals that would limit incumbent LECs' unbundling obligations. Finally, section 251(d)(2) does not direct us to unbundle only if all goals of the Act are satisfied by doing so. Rather, we must balance all these goals as we make our unbundling determinations. For similar reasons, we disagree that "at a minimum" can only be used to order unbundling in the absence of impairment.[559]

175. We disagree that the Commission must find, under section 706, that advanced telecommunications capability is not being deployed in a reasonable and timely fashion before it

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Our approach is entirely consistent with section 706 and the language of the Preamble to the 1996 Act, which states that the statute is "[a]n Act [t]o promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies." Preamble to the 1996 Act. It is also consistent with section 7(a), which states that "[i]t shall be the policy of the United States to encourage the provision of new technologies and services to the public." 47 U.S.C. § 157(a); *see also infra* Part VI.A.4.a.(iv)(b); Covad Comments at 78; FTTH Council Comments at 2-3, 6; HTBC Comments at 43; TIA Comments at 23; USTA Comments at 5; SBC Reply at 51-52.

We disagree that the goals of sections 251 and 706 cannot be balanced because, as several commenters argue, these statutory provisions are aimed at separate and distinct product markets. Likewise, we also disagree that the goals of section 706 can only be encouraged by unbundling. *See* ALTS *et al*. Comments at 31-32; BellSouth Comments at 32; CompTel Comments at 26; McLeodUSA Comments at 5; NuVox Comments at 12-13, 34. *See generally* Allegiance Comments at 14-15; ASCENT Comments at 22-25; Illinois Commerce Commission Comments at 4; Moline Dispatch Publishing Comments at 7; Sprint Comments at 10. Rather, we find that markets covered by section 251 may well overlap with the markets addressed by section 706. And, as explained above, unbundling may not always promote the goals of section 706.

[558] *See* SBC Comments at 11 n.16; Verizon Comments at 26; Qwest Reply at 18-20; Verizon Reply at 45, 47-50. *But see* Minnesota Department of Commerce Reply at 6 (questioning why Commission would impose a higher standard for unbundling than "necessary" and "impair" now when capital markets are restricted).

[559] *See, e.g.*, ALTS *et al*. Comments at 35-36; CompTel Comments at 29-30; UNE Platform Coalition Comments at 21-23; WorldCom Comments at 52. Contrary to the views of AT&T, we find that unbundling where there is no impairment does not promote competition without any costs, even if new entrants "prefer" to use their own facilities where possible. *See* AT&T Comments at 46-47. Rather, as explained above, unbundling has administrative and social costs that the courts have cautioned us to consider carefully, and we cannot simply hope that competitors will choose to use their own facilities rather than UNEs. *See supra* Part V.B.

can take section 706 into account in its unbundling analysis.[560] Rather, as explained above, we find that the "at a minimum" language permits us to take many goals into account, including those expressed in section 706. While the Commission may have found that the goals of section 706 are being met on a reasonable and timely basis, that does not preclude us from taking measures to ensure that that continues to be the case or to accelerate the achievement of those goals.

176. We also reject parties' arguments that taking other goals into account, such as the Act's goals in section 706, amounts to forbearance under section 10(d), which is prohibited unless section 251(c) has been "fully implemented."[561] We are not "forbearing"; rather we are applying section 251(d)(2) to determine where unbundling serves the goals of the Act.[562] Contrary to arguments otherwise,[563] our approach is fully consistent with the *Advanced Services Order*, where we concluded that "section 706(a) directs the Commission to use the authority granted in other provisions . . . to encourage the deployment of advanced services,"[564] and with *ASCENT v. FCC*, where the D.C. Circuit admonished the Commission for the equivalent of forbearing from section 251(c).[565] The Commission has not proposed to relax in any way the requirements of section 251(c)(3), which establishes "'*where* unbundled access must occur, not *which* [network] elements must be unbundled.'"[566] Rather, we take section 706 into account in interpreting and applying section 251(d)(2), a separate provision. Indeed, section 251(d)(2), particularly the "at a minimum" clause, grants us all the authority we need to take Congress's goals into account as we decide "*which* [network] elements must be unbundled.'"[567] We do not need any "authority" from section 706(a) to take this approach.

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[560] *See* Consumer Federation *et al*. Comments at 20-21.

[561] *See* CompTel Comments at 19. *See generally* Allegiance Comments at 13; AT&T Comments at 87.

[562] Likewise, because we use section 706 as an "at a minimum" consideration as described above, we need not visit the question of whether we can or should forbear from section 251. *See* HTBC Comments at 45-47 (arguing that the Commission should forbear from unbundling broadband facilities, and that section 251 is "fully implemented" because incumbent LECs are subject to intermodal competition for broadband services); Progress & Freedom Foundation Comments at 34 (arguing that a grant of section 271 authority means that section 251 is "fully implemented" in that state); TIA Comments at 23-24. *But see* WorldCom Reply at 37-38.

[563] *See* AT&T Comments at 86.

[564] *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 98-147, 98-11, 98-26, 98-32, 98-15, 98-78, 98-91, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 13 FCC Rcd 24012, 24045, para. 69 (1998) (*Advanced Services Order*); *see also id.* at 24046, para. 74 ("[S]ection 706(a) gives this Commission an affirmative obligation to encourage the deployment of advanced services, relying on our authority established elsewhere in the Act.").

[565] *ASCENT v. FCC*, 235 F.3d 662, 666 (D.C. Cir. 2001).

[566] *Iowa Utils. Bd.*, 525 U.S. at 391 (quoting *Iowa Utils. Bd v. FCC.*, 120 F.3d at 810) (emphasis in 8th Circuit opinion, bracketed language inserted in Supreme Court opinion).

[567] *Id.*

177. We also disagree that section 706's direction to use measures that "promote competition in the local telecommunications market" means that the Commission cannot read section 706 to limit any unbundling obligations.[568] To the contrary, as explained above, the "at a minimum" language of section 251(d)(2) expressly contemplates that the Commission will take other factors into account, and we find that the explicit goals of the Act such as those contained in section 706 most likely reflect Congress's intent for what we should take into account. And in any event, we find in neither section 706 nor section 251 a direction that one provision always "trumps" the other; through our approach we seek balance between them both.

178. Also regarding section 706, we note that the discussions below of individual UNEs address the role that investment incentives play in our unbundling determination. Parties have taken widely divergent views throughout this proceeding on the question of whether mandatory unbundling obligations promote or deter investment in new infrastructure.[569] In general, the incumbent LECs and equipment manufacturers take the position that unbundling deters both incumbent LEC and competitive LEC capital investment.[570] The competitive industry criticizes the incumbent LEC studies as incomplete, skewed and inaccurate.[571] In contrast, the competitive industry advances its own studies that ascertain that certain unbundling

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[568] *See* AT&T Comments at 85.

[569] We address arguments concerning specific UNEs in the relevant sections. *See infra* Parts VI.A. and VI.D.

[570] *See, e.g.*, ACS Comments at 6-7; Alcatel Comments at 6-11; BellSouth Comments at 71-72; California Commission Comments at 8-10; GSA Comments at 11-12; Maine CLEC Coalition Comments at 4-6; Progress & Freedom Foundation Comments at 9-31, Attach., *Investment Incentives and Local Competition at the FCC*, Media Law & Policy, IX, 1, 1-18, Larry F. Darby and Joseph Fuhr; Ohio Commission Comments at 16; Qwest Comments at 14-16; Verizon Comments at 27-29, 34-36; ACS Reply at 6-8; AT&T Reply at paras. 126-36, 339-43; El Paso and CTC Reply at 11-16; Progress & Freedom Foundation Reply at 3; Qwest Reply at 13-15 and Attach. A, Declaration of Joseph Farrell at para. 5; SBC Reply at 22-45; *see Stimulating Investment and the Telecommunications Act of 1996*, Robert D. Willig, et. al. (AT&T Oct. 11, 2002 Willig Stimulating Investment) at 5, *in* Letter from Joan Marsh, Director, Government Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Oct. 11, 2002) (AT&T Oct. 11, 2002 *Ex Parte* Letter); Letter from Debbie Goldman, Research Economist, CWA, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-4 (filed Jan. 14, 2003) (CWA Jan. 14, 2003 *Ex Parte* Letter).

[571] AT&T Reply at paras. 346-59; El Paso and CTC Reply at 16-23; Letter from Joan Marsh, Director – Federal Government Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach., C. Michael Pfau, *Correcting the RBOCs' Empirical Analysis of the Linkage Between UNE-P and Investment* (AT&T Correcting) at 12, 14 (filed Oct. 16, 2002) (AT&T Oct. 16, 2002 *Ex Parte* Letter); Letter from Christopher J. Wright, Counsel for Z-Tel, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Nov. 7, 2002) (Z-Tel Nov. 7, 2002 *Ex Parte* Letter); Letter from Marc Goldman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 13 (filed Nov. 13, 2002) (WorldCom Nov. 13, 2002 *Ex Parte* Letter); Letter from Kimberly Scardino, Senior Counsel, WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Nov. 27, 2002) (WorldCom Nov. 27, 2002 *Ex Parte* Letter); Letter from David R. Conn, Deputy General Counsel, McLeodUSA, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-6 (filed Jan. 8, 2003) (McLeodUSA Jan. 8, 2003 *Ex Parte* Letter); Letter from David R. Conn, Deputy General Counsel, McLeodUSA, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-4 (filed Jan. 17, 2003) (McLeodUSA Jan. 17, 2003 *Ex Parte* Letter).

obligations do not hinder, but rather encourage incumbent LECs to make capital investments to modernize their networks and deploy new services to meet increasing competition.[572] In addition, competitors assert that they make capital investments where such investments are economically rational and use UNEs elsewhere; that is, they contend that the availability of UNEs does not detract from competitive LECs deploying their own networks.[573] The incumbent LECs, in turn, challenge the competitive LEC studies as flawed and unreliable.[574] The evidence submitted by both sides is inconclusive. The economic studies presented by each side suffer from flaws that undermine their probative value. Studies submitted by the incumbent LECs are generally simple correlation models or state-to-state comparisons lacking adequate efforts to control for or explain other relevant variables.[575] Studies submitted by the competitive LECs

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[572] AT&T Willig Decl.; Letter from Michael J. Hunseder, Counsel for AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed June 28, 2002) (AT&T June 28, 2002 *Ex Parte* Letter); *Innovation, Investment, and Unbundling: An Empirical Update*, Robert B. Ekelund, and George S. Ford, (Z-Tel Innovation) at 5, *in* Letter from Christopher J. Wright, Counsel for Z-Tel, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, (filed Oct. 7, 2002) (Z-Tel Oct. 7, 2002 *Ex Parte* Letter); AT&T Willig Stimulating Investment at 1-7, 28-39.

[573] AT&T Comments at 44-65; CompTel Comments at 78-82, Declaration of James N. Perry at paras. 9-24; CompTel Comments, Declaration of John Hunt at paras. 1-11; Dynegy Comments at 4-7; Eschelon Comments at 10-15; GCI Comments at 33-41; Indiana Commission Comments at 8-9; Moline and CCG Comments at 6-8; WorldCom Comments, Attach. A, *The Technology and Economics of Cross-Platform Competition In Local Telecommunications Markets*, Richard A. Chandler, A. Daniel Kelley, and David M. Nugent, HAI Consulting, Inc. (WorldCom Technology and Economics) at 88; Sprint Reply at 14-16; WorldCom Kelley Reply Decl. at 13; Z-Tel Reply at 74-90; Letter from Christopher J. Wright, Counsel for Z-Tel, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach., *Unbundling and Facilities-Based Entry by CLECs: Two Empirical Tests*, George S. Ford and Michael D. Pelcovits (Z-Tel Unbundling), at 2, and Attach. *Preliminary Evidence on the Demand for Unbundled Elements*, Robert B. Ekelund, and George S. Ford, at 2 (filed Oct. 7, 2002) (Z-Tel Oct. 7, 2002 Unbundling *Ex Parte* Letter); Letter from Genevieve Morelli, Counsel for CompTel, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1, 96-97 (filed Oct. 31, 2002) (CompTel and PACE Oct. 31, 2002 *Ex Parte* Letter); WorldCom Nov. 13, 2002 *Ex Parte* Letter at 11; Letter from Phil Marchesiello, Co-Chairman, The Official Committee of Unsecured Creditors of WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 30, 2003) (WorldCom Unsecured Creditors Jan. 30, 2003 *Ex Parte* Letter). Eschelon states that small competitive LECs like itself serving small enterprise customers are also encouraged investment in their own networks where UNEs are available to fill in service territories. Eschelon Comments at 11.

[574] BellSouth Reply at 60-61; BOC Shelanski Decl. at paras. 4-12; SBC Reply at 3-16; Verizon Nov. 18, 2002 *Ex Parte* Letter at 1-7.

[575] BOC Shelanski Decl. at 22. Verizon Reply, Appendix 2, *UNE-P and Investment*, Prepared for BellSouth, SBC, and Verizon, July 2002, (Verizon Unbundled Switching Study). The study consisted of a univariate regression, which AT&T characterizes as a correlation study. AT&T Oct. 15, 2002 *Ex Parte* Letter at 12, 14. AT&T notes that only two cable companies are significantly implementing cable telephony and they do not have franchises in New York, so any comparison between California and New York cable telephony is unsound. Also, the E-911 database used to estimate competitive LEC access lines can only provide an upper bound to competitive access lines and closer to 9.7 to 9.9 million lines as opposed to the 16.4 million lines used by the BOCs in their analysis. The study supposedly showing how high level of UNE-P equates to low facilities-based competitive LEC access lines simply plots competitive LEC facilities-based access lines against competitive LEC UNE-P lines but does not include all states. Pfau duplicates the calculation but includes all states demonstrating that there is no depression of investment. (continued….)

include multiple regression models, but their conclusions relate more to particular market strategies of some competitive LECs rather than the effect on competitive services that would be provided under an alternate unbundling obligation. Neither the overall levels of competitive LEC activity nor the not insubstantial costs associated with unbundling were generally addressed by either the competitive LECs or the incumbent LECs.[576] That said, we return to these issues in more detail in the specific unbundling sections below.

E. Role of the States

1. Background

179. Sections 201(b) and 251(d)(1) of the Act authorize and direct the Commission to establish rules to implement the network unbundling requirements of section 251(c)(3) and 251(d)(2) of the 1996 Act. Section 201(b) provides that "[t]he Commission may prescribe such

(Continued from previous page)

Pfau also claims the BOCs significantly overstated the number of AT&T competitive LEC switches in California and New York by confusing local from long distance tandem switches. AT&T Pfau Correcting at 3-9.

[576] AT&T Willig Decl. The study was a multivariate regression between UNE pricing and incumbent LEC investment. It is methodologically suspect to use investment divided by state population as opposed to the more direct BOC measure of dividing by access lines: BOC access lines as a percentage of state population vary significantly. The author's independent variables of UNE rates, average revenue per access line and the incumbent LEC cost of investment are not well explained, subject to significant errors, and appear suspect lacking significant additional explanation. It is unclear if the error terms are robust, *i.e.*, heteroskedasticity-corrected, standard errors; if not, then conclusions about statistical significance could be inaccurate. The author's attributing the lack of significance in many of the variables to simply "noise" cannot be accepted without stronger justification. The competitive LEC access line data may significantly understate actual levels of competition as the data excludes competitive LECs with less than 10,000 access lines in a state. Willig expanded his analysis in AT&T Willig Stimulating Investment, but the essential analysis is unchanged. AT&T Willig Stimulating Investment. In WorldCom Technology and Economics, the authors do not provide an econometric model, but simply view the gross incumbent LEC investment since the 1996 Act and assert that this proves unbundling does not deter incumbent LEC investment. *See* WorldCom Technology and Economics at 88. Such a simple and gross comparison fails to take into account any other possible variables that might explain the investment pattern. Such a gross comparison cannot be given significant weight. *Id*. at 96-97. In Z-Tel Unbundling and in Z-Tel Preliminary Evidence, the two studies use multivariate econometric analysis and demonstrate that there is a downward sloping demand curve for UNE-P: as prices increase quantity demanded of UNEs by competitive LECs decrease. It is difficult to criticize the almost universal economic truism illuminated in the results, but whatever the validity of the results, they do not demonstrate what effect reducing availability of network elements would have on investment. The studies might be more persuasive if the authors attempted to extend their analysis to the direct matter of investment. In Z-Tel Innovation, the study attempts to estimate the market risks of incumbent LECs to determine if the cost of raising capital investigates changed with the introduction of unbundling obligations. The authors concluded that, despite the economic downturn in recent years, the risk of borrowing money for capital spending had not increased. They conclude that unbundling has therefore not decreased incumbent LECs investment. The effect of the decrease in value of incumbent LEC's stock value was not addressed. Even given the results, this study does not address whether or to what extent investment is changed by unbundling obligations, simply concluding that the risk associated with incumbent LECs borrowing funds had not increased in recent years.

rules and regulations as may be necessary in the public interest to carry out the provisions of this Act."[577] Section 251(d)(1) provides:

> Within six months of the date of enactment of the Telecommunications Act of 1996, the Commission shall complete all action necessary to establish regulations to implement the requirements of this section.[578]

Section 251(d)(2) directs the Commission to perform the "necessary and impair" analysis required to determine what network elements should be made available.[579]

180. The 1996 Act also preserves the states'[580] authority to establish unbundling regulations pursuant to state law as long as the exercise of state authority does not conflict with the Act and its purposes or substantially prevent the Commission's implementation. Section 251(d)(3) requires that, in prescribing and enforcing its regulations to implement the requirements of section 251 –

> the Commission shall not preclude the enforcement of any regulation, order, or policy of a State Commission that –
>
> (A) establishes access and interconnection obligations of local exchange carriers;
> (B) is consistent with the requirements of this section; and
> (C) does not substantially prevent implementation of the requirements of this section and the purposes of this part.[581]

Section 252(e)(3) preserves the state's authority in its review of interconnection agreements:

> Notwithstanding paragraph (2), but subject to section 253, nothing in this section shall prohibit a State commission from establishing or enforcing other requirements of State law in its review of an agreement, including requiring compliance with intrastate telecommunications service quality standards or requirements.[582]

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[577] 47 U.S.C. § 201(b).

[578] *Id*. § 251(d)(1).

[579] *Id*. § 251(d)(2).

[580] For purposes of this Order, the term "state" includes the District of Columbia and the Territories and possessions, as defined in section 3(40) of the Act. *Id*. § 153(40).

[581] *Id*. § 251(d)(3).

[582] *Id*. § 252(e)(3).

Sections 261(b) and (c) generally preserve state authority to take action pursuant to state law, provided that such action is consistent with the Act and our federal framework.[583]

181. In the *Local Competition Order,* the Commission identified a national minimum list of UNEs that incumbent LECs must make available to new entrants upon request, as required by section 251(d)(2).[584] The Commission delegated to the states the authority to apply section 251(d)(2) – and the Commission's interpretation of that provision's "necessary" and "impair" standards – to require incumbent LECs to make available to new entrants additional network elements beyond those that the Commission identified in its minimum national list.[585]

182. The Supreme Court upheld the Commission's authority to implement the local competition provisions of the 1996 Act, including the unbundling requirements of section 251, in *AT&T Corp. v. Iowa Utilities Board*.[586] The Court found that Congress granted the Commission full authority to regulate with respect to matters addressed by the 1996 Act, even though, in doing so, Congress had "taken the regulation of local telecommunications competition away from the States."[587]

183. In the *UNE Remand Order,*[588] the Commission revisited its unbundling requirements in light of the Supreme Court's remand. In doing so, the Commission, among other things, stated that the source of authority relied upon for Rule 317 in the *Local Competition Order* was section 252(e)(3), which preserves a state's authority under state law when reviewing interconnection agreements.[589] The Commission amended Rule 317 in order to incorporate a revised "necessary" and "impair" standard into that rule.[590] The Commission also modified the

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583 *Id*. §§ 261(b), (c).

584 *Local Competition Order,* 11 FCC Rcd 15499.

585 *Local Competition Order,* 11 FCC Rcd at 15641-42, paras. 281-82; *see also* 47 C.F.R. § 51.317(a) and (b) (1996). Original rule 317 provided that, when faced with a request for additional *federal* unbundling beyond that required by the Commission's minimum list, the state could "*decline* to require unbundling of the network element *only if* " that network element did not satisfy the applicable "necessary" or "impair" test. 47 C.F.R. § 51.317(b)(emphasis added).

586 525 U.S. 366. No party challenged the Commission's conclusion that it could authorize the states to apply those standards to require unbundling of additional network elements under federal law. However, the Supreme Court held that the Commission had not properly construed the "necessary" and "impair" standards of section 251(d)(2) and remanded to the Commission for further proceedings consistent with its opinion. *Id.* at 397. Following the Supreme Court's decision, the Eighth Circuit vacated Rule 317 because the rule incorporated the Commission's faulty construction of "necessary" and "impair" in its instructions to the states. *Iowa Utils. Bd. v. FCC,* 219 F.3d at 757.

587 *Iowa Utils. Bd.*, 525 U.S. at 378 n.6.

588 *UNE Remand Order*, 15 FCC Rcd 3696.

589 *Id.* at 3762, para. 145 and nn. 249-50.

590 *Id*. at 3767-68, para. 155.

language addressing state action with respect to additional unbundling requirements in two respects. First, the Commission's new language provided that "[a] state must comply with the standards set forth in this §51.317 when considering whether to require the unbundling of additional elements."[591] Second, the Commission rules provided that a state could not remove a network element from the national UNE list, but that the state could remove a network element that the state itself had added "in accordance with the requirements of this rule."[592] The Commission described the authority to be exercised by states under new Rule 317 as state law authority preserved by section 251(d)(3) of the Act, which preserves such authority regarding network elements to the extent that it is consistent with section 251 requirements and does not substantially prevent implementation of federal law.[593]

184. In *United States Telecom Ass'n v. FCC,*[594] the D.C. Circuit reversed the revised construction and application of section 251(d)(2) that the Commission had adopted in the *UNE Remand Order*. Among other things, the Court found fault with the Commission's adoption of a "uniform national rule" that mandated provision of unbundled access to most network elements throughout the country.[595] The court held that section 251(d)(2) required "a more nuanced concept of impairment" that took into account possible variations in impairment in different geographic and customer markets.

185. In the *Notice*, we sought comment on the proper role of state commissions in the implementation of unbundling requirements for incumbent LECs in light of the changes that have occurred since the initial implementation of the 1996 Act. Specifically, we sought comment on the extent to which state commissions can create, remove, and implement unbundling requirements and the statutory provisions that would provide authority to states to act, consistent with applicable limitations on delegations of authority to the states.[596]

2. Discussion

186. The Communications Act assigns the Commission the responsibility for establishing a framework to implement the unbundling requirements of section 251(d)(2). In this Order, we create rules for UNEs based on our new impairment standard and marketplace developments over the past three years. We are cognizant of the concern expressed by the court in *USTA* that our prior rules were not narrowly-tailored enough. We recognize that competition has evolved at a different pace in different geographic markets and for different market segments. Thus, to ensure that the proper degree of unbundling occurs, we rely, in certain

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591 47 C.F.R. § 51.317(b)(4).

592 *Id*.

593 *UNE Remand Order,* 15 FCC Rcd at 3768, paras. 156-57.

594 290 F.3d at 415.

595 *USTA,* 290 F.3d at 422.

596 *Triennial Review NPRM*, 16 FCC Rcd at 22815-16, paras. 75-76.

instances when such analysis is necessary, on market-by-market fact-finding determinations made by the states. While we delegate to the states a role in the implementation of our federal unbundling requirements for certain network elements that require this more granular approach, we make clear that any action taken by the states pursuant to this delegated authority must be in conformance with the Act and the regulations we set forth herein. We find further that the 1996 Act preserved the states authority to prescribe access obligations pursuant to state law in section 251(d)(3), but only to the extent that state laws or regulations do not conflict with or frustrate the Act and its purposes or substantially prevent the federal implementation regime. In short, the statute allows states to continue to exercise federal authority delegated by this Commission or state authority that is consistent with and does not substantially prevent implementation of the federal regime.

a. Federal Authority and the Role of the States

187. As we explain in this Order, we conclude that a more targeted, granular unbundling analysis is needed in light of the lessons learned over the last three years. To achieve the successful implementation of our new framework, we have examined what role the states should play.[597] The policy framework we adopt in this Order is based on carefully targeted impairment determinations. Where appropriate, based on the record before us, we adopt uniform rules that specify the network elements that must be unbundled by incumbent LECs in all markets and the network elements that must not be unbundled, in any market, pursuant to federal law. In doing so, we exercise our authority pursuant to sections 201(b) and 251(d) of the Act. As we explain in this Order, we find that setting a national policy for unbundling some network elements is necessary to send proper investment signals to market participants and to provide certainty to requesting carriers, including small entities. We find that states do not have plenary authority under federal law to create, modify or eliminate unbundling obligations.

188. The record before us and the D.C. Circuit's emphasis in *USTA* on granularity in making unbundling determinations both lead us to conclude that asking states to take on some fact finding responsibilities would be the most reasonable way to implement the statutory goals for certain network elements.[598] We find that giving the state this role is most appropriate where,

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[597] As the Commission stated in 1996, if, upon review, decision-making responsibilities have been inefficiently or inappropriately allocated between the Commission and the states, the Commission will reallocate them. *Local Competition Order*, 11 FCC Rcd at 15520, para. 41. Many state commissions urge the Commission to convene a Federal/State Joint Conference on unbundling requirements pursuant to section 410(b) of the 1996 Act before promulgating new rules. NARUC Comments at 4-5; Michigan Commission Comments at 5-6; Illinois Commission Comments at 3; *see also* CompTel Nov. 26, 2001 Joint Conference Petition. Others oppose the Federal/State Joint Conference proposal as superfluous and creating delay in resolution of the issues. ALTS *et al*. Comments at 132-33; Pennsylvania Commission Comments at 3-4 n.7; BellSouth Comments at 112. In light of our responsibilities under the Act to implement the unbundling obligations as well as the D.C. Circuit Court's decision in *USTA,* we find it imperative to move forward to adopt new rules without reference to a Joint Conference and we therefore deny that portion of the CompTel Petition.

[598] *See infra* Part VI. A number of state commissions have urged the Commission to take advantage of their knowledge of local market conditions. *See* Michigan Commission Comments at 4-6; Florida Commission Reply at 2-3; Georgia Commission Comments at 3-4; Massachusetts Department Comments at 5-8. Competitive LECs have (continued….)

in our judgment, the record before us does not contain sufficiently granular information and the states are better positioned than we are to gather and assess the necessary information. A more granular analysis will also benefit small businesses by considering the differing levels of competition in rural and urban markets and the differing needs and resources of carriers serving mass market and small to medium business customers.[599] We conclude that we have the authority to delegate to the states some of our authority pursuant to section 251(d)(2). Express statutory authority is not required for an agency validly to delegate functions to another entity or sovereign.[600] Moreover, neither section 251(d)(2) nor any other provision of the 1996 Act prohibits delegation of the Commission's authority to "determine what network elements must be made available."[601] Incumbent LECs argue that the Commission may not "punt" unbundling decisions to the states.[602] They argue that, in those instances where impairment analysis requires a more granular approach, the Commission should establish "objective, carefully defined criteria for determining where unbundling is (and is not) appropriate."[603] We find that, provided our delegation to the states is consistent with applicable federal law and is undertaken in a way that is reasonably designed to ensure that the substantive function at issue will be performed consistently with the statute's substantive standards, we are in no way "punting" decisions to the states.[604] Rather, we are reasonably implementing the statute, particularly given that states may be in the best position to judge whether the Act's extraordinary unbundling remedies should be applied.

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made similar proposals. *See* AT&T Comments at 246-50; Letter from Heather B. Gold, Principle, KDW Group (for Broadview, Talk America, and Eschelon), to Marlene H. Dortch, Secretary, FCC, CC Docket 01-338, Attach. 1 (filed Dec. 31, 2002) (KDW Dec. 31, 2002 *Ex Parte* Letter). Some competitive carriers petitioned the Commission to adopt procedures that provide state public utility commissions with authority to determine which network elements should be unbundled in their states. *See* Promoting Active Competition Everywhere (PACE) Coalition Petition, CC Docket Nos. 01-338, 96-98, 98-147 (filed Feb. 6, 2002) (PACE Feb. 6, 2002 Petition). In light of our decision in this Order to delegate some of our unbundling authority to the states in appropriate circumstances, we dismiss the PACE petition as moot.

[599] *See* Eschelon Comments at 6, 8.

[600] *See, e.g.*, *Fleming v. Mohawk Wrecking & Lumber Co.*, 331 U.S. 111, 121-22 (1947); *Tabor v. Joint Board For Enrollment of Actuaries,* 566 F.2d 705, 708 n.5 (D.C. Cir. 1977); *Assiniboine and Sioux Tribes v. Board of Oil and Gas Conservation,* 792 F.2d 782, 795-96 (9th Cir. 1986).

[601] *See* 47 U.S.C. § 251(d)(2).

[602] Letter from Herschel L. Abbott, Jr., Vice President – Government Affairs, BellSouth *et al*., to Michael K. Powell, Chairman, FCC at 2, *in* Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Nov. 19, 2002) (RBOC Joint Nov. 19, 2002 *Ex Parte* Letter).

[603] RBOC Joint Nov. 19, 2002 *Ex Parte* Letter at 4.

[604] *See Vierra v. Rubin*, 915 F.2d 1372, 1378 (9th Cir. 1990) (a state's authority to define a federal statutory term may not exceed the statutory authority given the federal agency by Congress in the first place); *see also Assiniboine and Sioux Tribe v. Board of Oil and Gas Conservation,* 792 F.2d at 795-96; *Nat'l. Park and Conservation Ass'n v. Stanton,* 54 F. Supp. 2d 7, 19 (D.D.C. 1999).

189. We find that a delegation to the states with standards from the Commission will best ensure that our unbundling decisions are implemented consistently with the Act's purposes. We find this approach is consistent with the Supreme Court's view that the state commissions' participation in the "new federal regime" should be "guided by federal-agency regulations."[605] We limit the states' delegated authority to the specific areas and network elements identified in this Order. To ensure that the states implement their delegated authority in the same carefully targeted manner as our federal determinations, we set forth in this Order federal guidelines to be applied by the states in the execution of their authority pursuant to federal law.

190. We delegate to the states our authority under section 251(d)(2) to undertake analyses set forth in this Order which will affect incumbent LECs' unbundling obligations for certain elements in particular areas in this Order. There can be no doubt that state commissions possess the ability and the competence to undertake such analyses for specific network elements successfully. Moreover, for the elements we have specified, state commissions are well situated to conduct the granular analysis required. If a state commission fails to perform the granular inquiry we delegate to them, any aggrieved party may petition this Commission to step into the state's role. Any party seeking Commission review of a state commission's failure to act shall file a petition with this Commission that explains with specificity the bases for the petition and information that supports the claim that the state has failed to act. The Commission will issue a public notice seeking comment on the petition and rule on the petition within ninety days from this public notice. If the Commission agrees that the state has failed to act, it will assume responsibility for the proceeding and make any findings in accordance with the rules set forth herein. These findings will be made nine months from the time the Commission has assumed responsibility for the proceeding.[606]

b. State Authority

191. Section 252(e)(3) preserves the states' authority to establish or enforce requirements of state law in their review of interconnection agreements. Section 251(d)(3) of the 1996 Act preserves the states' authority to establish unbundling requirements pursuant to state law to the extent that the exercise of state authority does not conflict with the Act and its purposes or our implementing regulations.[607] Many states have exercised their authority under state law to add network elements to the national list.[608]

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[605] *Iowa Utils. Bd.,* 525 U.S. at 378 n.6. We do not agree that the Court meant to suggest that states had no role to play, as some have argued. *See* SBC Comments at 42.

[606] In the case of switches used to serve customers in the enterprise market at the DS1 capacity and above, however, the Commission will issue its findings within 90 days from the time it has assumed responsibility for the proceeding. *See infra* Part VI.D.5.

[607] *See* 47 U.S.C. § 251(d)(3).

[608] *See, e.g.*, NARUC Comments at 8-9.

192. We do not agree with incumbent LECs that argue that the states are preempted from regulating in this area as a matter of law.[609] If Congress intended to preempt the field, Congress would not have included section 251(d)(3) in the 1996 Act. We likewise do not agree with those that argue that the states may impose any unbundling framework they deem proper under state law, without regard to the federal regime.[610] These commenters overlook the specific restraints on state action taken pursuant to state law embodied in section 251(d)(3), and the general restraints on state actions found in sections 261(b) and (c) of the Act.[611] Their arguments similarly ignore long-standing federal preemption principles that establish a federal agency's authority to preclude state action if the agency, in adopting its federal policy, determines that state actions would thwart that policy.[612] Under these principles, states would be precluded from

[609] *See, e.g.*, SBC Comments at 40-42; Verizon Comments at 65-66; RBOC Joint Nov. 19, 2002 *Ex Parte* Letter. *Cf. Iowa Utils. Bd.*, 525 U.S. 366 (rejecting incumbent LECs' assertions that the states, not the Commission, have authority to adopt rules to implement the local competition provisions of the 1996 Act).

[610] *See* NARUC Comments at 10 (urging the Commission "to defer to State determinations of whether unbundling requirements in any State should collapse to the existing or new federal minimums."); *see also* Z-Tel Comments at 89-90; AT&T Reply at 374-75; *see also* Letter from Edward A. Yorkgitis, Jr., Counsel for Talk America, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Nov. 15, 2002) (Talk America Nov. 15, 2002 Role of States *Ex Parte* Letter); AT&T Nov. 13, 2002 *Ex Parte* Letter at 4 (asserting that "section 251(d)(3) expressly bars the Commission from adopting regulations that preclude enforcement of State unbundling requirements that are in *addition* to those that the Commission adopts.").

[611] Z-Tel and Talk America argue that the Eighth Circuit has already found that section 251(d)(3) "constrains the FCC's authority" to preempt state access and interconnection obligations. Talk America Nov. 15, 2002 Role of States *Ex Parte* Letter at 2; Z-Tel Comments at 87-88, citing *Iowa Utils. Bd. v. FCC,* 120 F.3d. at 806-07. Z-Tel maintains that, in light of the Eighth Circuit's holding, the Commission should not attempt, in advance, to limit the state commissions' authority to create unbundling requirements but should conduct a separate adjudicative proceeding if an incumbent LEC seeks to preempt state unbundling requirements. Z-Tel Comments at 89. The Eighth Circuit found that the scope of federal rulemaking authority under section 251 of the 1996 Act was limited to six specific areas and interpreted section 251(d)(3) as a further constraint on Commission authority. *Iowa Utils. Bd. v. FCC*, 120 F.3d at 806. The Supreme Court reversed with respect to the scope of federal rulemaking authority in *Iowa Utilities Board*. The Commission did not appeal the Eighth Circuit's holding with respect to section 251(d)(3). That portion of the Eighth Circuit's opinion reinforces the language of the section, *i.e.*, that state interconnection and access regulations must "substantially prevent" the implementation of the federal regime to be precluded and that "merely an inconsistency" between a state regulation and a Commission regulation was not sufficient for Commission preemption under section 251(d)(3). *Id.* We believe our decision properly balances the broad authority granted to the Commission by the 1996 Act with the role preserved for the states in section 251(d)(3) and is fully consistent with the Eighth Circuit's interpretation of that provision.

[612] *See, e.g.*, *Geier v. American Honda Motor Co.,* 529 U.S. 861, 873 (2000) (where state law frustrates the purposes and objectives of Congress, conflicting state law is "nullified" by the Supremacy Clause); *City of New York v. FCC*, 486 U.S. 57, 64 (1988); *see also Iowa Utils. Bd.,* 525 U.S. at 381 n.7 (the Court opined that, after the 1996 Act, the limitation on the Commission taking intrastate action embodied in section 152(b) of the Communications Act "may have less practical effect . . . because Congress, by extending the Communications Act into local competition, has removed a significant area from States' exclusive control.").

enacting or maintaining a regulation or law pursuant to state authority that thwarts or frustrates the federal regime adopted in this Order.[613]

193. Based on the plain language of the statute, we conclude that the state authority preserved by section 251(d)(3) is limited to state unbundling actions that are consistent with the requirements of section 251 *and* do not "substantially prevent" the implementation of the federal regulatory regime.[614] We disagree with those commenters that maintain that, because we have permitted states to add UNEs to our national list in the past, we cannot limit their ability to continue to do so.[615] Their argument ignores the clear directives Congress provided in the 1996 Act. Section 251(d)(3) preserves states' authority to impose unbundling obligations but only if their action is consistent with the Act and does not substantially prevent the implementation of our federal regime. Their argument also ignores the fact that prior Commission actions clearly had preemptive effect; as noted above, in the *UNE Remand Order*, the Commission prohibited the states from removing UNEs from the federally mandated list.

194. We also find that state action, whether taken in the course of a rulemaking or during the review of an interconnection agreement, is limited by the restraints imposed by subsections 251(d)(3)(B) and (C). We are not persuaded by AT&T's argument that a state commission may impose additional unbundling obligations in the context of its review of an interconnection agreement without regard to the federal scheme.[616] Section 252(e)(3) provides that nothing *in section 252* prohibits a state commission from imposing additional requirements of state law in its review of an interconnection agreement.[617] We find nothing in the language of

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[613] *Fidelity Federal Savings & Loan Assoc. v. de la Cuesta*, 458 U.S. 141, 154 (1982) ("A pre-emptive regulation's force does not depend on express congressional authorization to displace state law"); *City of New York v. FCC*, 486 U.S. 57, 64 (1988) ("The statutorily authorized regulations of an agency will pre-empt any state or local law that conflicts with such regulations or frustrates the purposes thereof."). Even where Congress has preserved some role for the states the Supreme Court has found that "state law is nullified to the extent that it actually conflicts with federal law." *Fidelity Federal Savings & Loan Assoc. v. de la Cuesta,* 458 U.S. at 154. The Court stated that such a "conflict" arises ". . . when state law 'stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress,' *Hines v. Davidowitz,* 312 U.S. 52, 67, 61 S.Ct. 399, 404, 85 L.Ed. 581 (1941)." *Id.*

[614] We find that Congress' reference to the "implementation of the requirements of this section" in section 251(d)(3)(C) means the Commission's section 251 implementing regulations. AT&T's argument that the validity of state unbundling regulations must be measured solely against the Act's purposes fails to recognize that the Commission is charged with implementing the Act and its purposes are fully consistent with the Act's purposes. *See* AT&T Nov. 13, 2002 *Ex Parte* Letter at 6; Letter from Mark Rosenblum, Vice President – Law, AT&T, to Michael K. Powell, Chairman, FCC, *et al*., CC Docket No. 01-338 at 7, *in* Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Dec. 18, 2002) (AT&T Dec. 18, 2002 Rosenblum *Ex Parte* Letter).

[615] *See* California Commission Comments at 23; New York Department Comments at 8-9; NARUC Comments at 6; Florida Commission Comments at 5-6; AT&T Reply at 373-75; Letter from Access Integrated Networks *et al.,* to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2-3 (filed Oct. 24, 2002) (Access Integrated Networks Oct. 24, 2002 *Ex Parte* Letter).

[616] *See* AT&T Dec. 18, 2002 Rosenblum *Ex Parte* Letter at 9.

[617] *See* 47 U.S.C. § 252(e)(3).

section 251(d)(3) to limit its application to state rulemaking actions. Therefore, we find that the most reasonable interpretation of Congress' intent in enacting sections 251 and 252 to be that state action, whether taken in the course of a rulemaking or during the review of an interconnection agreement, must be consistent with section 251 and must not "substantially prevent" its implementation.

195. Parties that believe that a particular state unbundling obligation is inconsistent with the limits of section 251(d)(3)(B) and (C) may seek a declaratory ruling from this Commission. If a decision pursuant to state law were to require the unbundling of a network element for which the Commission has either found no impairment – and thus has found that unbundling that element would conflict with the limits in section 251(d)(2) – or otherwise declined to require unbundling on a national basis, we believe it unlikely that such decision would fail to conflict with and "substantially prevent" implementation of the federal regime, in violation of section 251(d)(3)(C). Similarly, we recognize that in at least some instances existing state requirements will not be consistent with our new framework and may frustrate its implementation. It will be necessary in those instances for the subject states to amend their rules and to alter their decisions to conform to our rules.

196. We find that our federal framework, which provides for uniform national rules for some network elements and a more granular approach for others, offers the certainty and stability necessary to enable parties to make investment decisions. This approach is required under *USTA*.[618] Commenters have argued that nothing could create more instability, and be more destructive of investment incentives for both incumbent LECs and competitive LECs, than the establishment of multiple, separate state decisions as to which UNEs have to be offered and under what conditions.[619] In this Order we have balanced the need for a more granular analysis with the need for certainty through a federal unbundling regime. In light of policy reasons and the fact that the D.C. Circuit has found fault with our uniform national rules, we find that the availability of certain network elements may vary between geographic regions. However, the basis on which those more granular determinations will be made is straightforward and predictable. Additionally, we find that the limitations embodied in section 251(d)(3)(B) and (C) will prevent states from taking actions under state law that conflict with our framework and create disincentives for investment.

[618] *See USTA*, 290 F.3d at 427 (finding that Commission's concept of impairment failed to take account of relevant cost disparities).

[619] Verizon Reply at 51. Verizon also urges the Commission to expeditiously halt existing state efforts to craft expanded unbundling requirements. *Id.* at 53; *see also* SBC Reply at 71-83.

VI. UNBUNDLING REQUIREMENTS FOR INDIVIDUAL NETWORK ELEMENTS

A. Loops

1. Summary

197. Consistent with our statutory mandate and relevant judicial precedent, we focus on specific market and customer characteristics as informed by the various loop types and capacities that typically serve these markets and customers to undertake the granular inquiry necessary to determine where loop impairment exists.[620] In distinguishing among the various types of loop facilities, *i.e.*, DS0 (voice-grade/POTS), DS1, DS3, OCn and dark fiber, we recognize that these facilities, as a practical matter, typically serve distinct classes of customers,[621] resulting in different economic considerations for competitive carriers seeking to self-deploy.[622] Through this approach we are able to more precisely calibrate our rules to ensure that competitive LECs only gain access to unbundled loops where they are impaired under the standard we adopt above, *i.e.*, where they cannot economically self-provision loops and competitive alternatives do not exist.[623] To that end, we conduct separate loop impairment analyses based on loop types and capacity levels, which also consider two relevant customer classes – the mass market and the enterprise market.[624]

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[620] Specifically, the local loop network element is a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises. This network element also includes all features, functions and capabilities of such transmission facility, including the NID. It also includes all electronics, optronics, and intermediate devices (including repeaters and load coils) used to establish the transmission path to the end-user customer premises as well as any inside wire owned or controlled by the incumbent LEC that is part of that transmission path. *See infra* note 628.

[621] *See, e.g.*, SBC Comments at 96-98; NewSouth Reply at 16.

[622] As explained in Part VI.A.4.a. below, we make a further distinction in our unbundling analysis for mass market loops based upon the type of loop facility (*e.g.*, copper or fiber).

[623] Our loop unbundling analyses takes into account the relevant customer market typically served by the loop capacity involved. However, we recognize that although each loop type and capacity level may be used predominantly to provide service to a particular customer group, that same loop also may be used to provide service across a range of customer categories. For that reason, though our loop unbundling analysis focuses upon the customer classes most likely to be served by a specific type of loop, the unbundling rules we adopt apply with equal force to every customer served by that loop type. *See infra* paras. 209-10.

[624] As described in Part V.B.2.a. above, the mass market consists primarily of residential and similar, very small, business users of analog POTS. The enterprise market is a business customer market of typically medium to large businesses with a high demand for a variety of sophisticated telecommunications services. *See supra* Part V.B.2.a. The record reflects that high-capacity loops, DS1 to OCn, are generally provisioned to enterprise customers, while voice-grade analog loops, DS0 loops, and loops that deploy xDSL services, are used to serve customers typically associated with the mass market. We note, however, that while the enterprise market is comprised of business customers of varying size and capacity requirements, these customers reside, most often, in multiunit premises which are owned or controlled by another entity. Competitive carriers serving multiunit premises face deployment barriers that are not present when a competitive carrier seeks to deploy service to a customer located in a premises that such customer owns or controls. *See infra* Part VI.B.2. (addressing in detail barriers associated with accessing (continued….)

198. With respect to our mass market analysis, we make national impairment determinations for loops based on general economic and operational factors that do not vary significantly by geographic region.[625] As we explain more fully below, we find that the technical characteristics of the loop facilities generally deployed for use by mass market customers counsel for adopting rules that take into account the various technologies now used in loops. In crafting our unbundling requirements, we consider other factors, most notably our mandate under section 706 of the Act to promote the rapid deployment of advanced services throughout the nation. Additionally, we reach our findings after full recognition and consideration of intermodal platforms, notably cable and CMRS.

199. Given the steep economic barriers associated with alternative loop deployment that are compounded by various identified operational issues, we require that loops consisting of either all copper or hybrid copper/fiber facilities must be provided on an unbundled basis so that requesting carriers may provide narrowband services over them.[626] For these reasons, we also direct incumbent LECs to unbundle stand-alone copper loops and subloops for the provision of broadband service. However, subject to a transition plan discussed below, we do not reinstate the Commission's vacated line sharing rules because we determine that continued unbundled access to stand-alone copper loops and subloops enables a requesting carrier to offer and recover its costs from all of the services that the loop supports, including broadband service.

200. In addition, we find that different policy considerations, as well as different technical considerations, are associated with copper loops, hybrid copper/fiber loops, and FTTH loops. For example, we decline to require incumbent LECs to provide unbundled access to their hybrid loops for the provision of broadband services.[627] Similarly, we decline to unbundle loops that consist of FTTH facilities for broadband services. As explained more fully below, this unbundling approach – *i.e.*, greater unbundling for legacy copper facilities and more limited unbundling for next-generation network facilities – appropriately balances our goals of

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customers in multiunit premises). When customers typically associated with the mass market reside in multiunit premises, carriers seeking to self-deploy their own facilities to serve these customers face the same barriers as when serving multiunit premise-based enterprise customers. Because we find that the barriers faced by requesting carriers in accessing customers in multiunit premises are not unique to enterprise market customers residing in such premises but extend to all classes of customers residing therein, including residential or other mass market tenants, the conclusions we reach for high-capacity loops in the enterprise market apply equally to mass market customers in multiunit premises. This in no way affects or changes the conclusions we reach with respect to DS0 and xDSL capable loops in our mass market analysis.

[625] *See, e.g.*, AT&T Reply at 146, 165.

[626] As explained below, in overbuild situations where the incumbent LEC elects to retire existing copper loops for FTTH loops, we also require incumbent LECs to make available unbundled access to a 64 kbps transmission path over that FTTH loop so that a competitor may provide narrowband service to that end-user customer.

[627] Incumbent LECs must continue to provide unbundled access to the TDM features, functions, and capabilities of their hybrid loops. This will allow competitive LECs to continue providing both traditional narrowband services (*e.g.*, voice, fax, dial-up Internet access) and high-capacity services like DS1 and DS3 circuits.

promoting facilities-based investment and innovation against our goal of stimulating competition in the market for local telecommunications services.

201. With respect to our enterprise market analysis, we make national impairment determinations based on loop characteristics that do not vary significantly from area to area. Our conclusions with respect to loop deployment do vary, however, according to the loop type, *i.e.*, dark fiber[628] or "lit" fiber,[629] and the capacity level of the particular loop. We find that different economic characteristics impact a competitive LEC's ability to self-deploy or utilize wholesale alternatives based on the capacity level of the loop facility demanded by its customer.[630]

202. With regard to the highest capacity loop facilities, *i.e.*, OCn loops,[631] we conclude that no impairment exists on a nationwide basis. At the OCn level, requesting carriers have the ability to economically self-provision their own loops or are able to obtain unbundled dark fiber and light it at the OCn level. With respect to dark fiber loops,[632] DS3 loops,[633] and DS1 loops,[634]

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[628] Dark fiber is optical fiber through which no light is transmitted and no signal is carried. It is unactivated deployed fiber that is left dark, *i.e.*, with no necessary equipment, *i.e.*, "opto-electronics" or "optronics" attached to light the fiber to carry a signal to serve customers. *See* NEWTON'S TELECOM DICTIONARY 201 (18th ed. 2002) (definition of Dark Fiber); *see also UNE Remand Order*, 15 FCC Rcd at 3771, para. 162 n.292. Once the optronics are attached to the fiber to make signal transmission possible the dark fiber becomes "lit." *See* NEWTON'S TELECOM DICTIONARY 538-39 (18th ed. 2002) (definition of Opto-Electronics and Optronics).

[629] *Id.*; *see also* NEWTON'S TELECOM DICTIONARY 433 (18th ed. 2002) (definition of Lit Fiber).

[630] We also know that alternative transmission technologies such as fixed wireless, satellite and unlicensed wireless may exist as potential enterprise market loop alternatives in limited circumstances and, therefore, consider these alternative transmission capabilities in our impairment analysis where appropriate. *See, e.g.*, BellSouth Comments at 42-44; SBC Reply at 91; Verizon Comments at 118-19.

[631] OCn is an optical interface designed to work with a Synchronous Optical Network (SONET). *See* NEWTON'S TELECOM DICTIONARY 528 (18th ed. 2002) (definition of OCn). SONET is an optical interface standard for translating electronic communications signals into photonic signals for transmission across fiber optic facilities. Ideally, SONET transmission systems are laid out in a ring formation to provide redundancy. *See* NEWTON'S TELECOM DICTIONARY 684-85 (18th ed. 2002) (definition of SONET). OCn transmission facilities are deployed as SONET channels having a bandwidth of typically 155.52 Mbps (OC3 or the equivalent capacity of 3 DS3s) and higher, *e.g.*, OC12 (622.08 Mbps); OC48 (2.488 Gbps) etc. *See* NEWTON'S TELECOM DICTIONARY 527 (18th ed. 2002) (definitions of OC3, OC12, and OC48).

[632] In the *UNE Remand Order*, the Commission determined that the loop facility includes dark fiber, stating that both copper and fiber alike represent unused loop capacity therefore dark fiber and extra copper both fall within the loop network element's "facilities, functions, and capabilities." *See UNE Remand Order*, 15 FCC Rcd at 3776, para. 174. The Commission went on to state that there is "no reason to distinguish dark fiber from our general unbundling analysis for loops." *UNE Remand Order*, 15 FCC Rcd at 3785, para. 196. The record contains no basis for departing from this determination.

[633] A DS3 loop is a digital local loop having a total digital signal speed of 44.736 Mbps provided over various transmission media including but not limited to fiber optics, coaxial cable, or radio. DS3 loops can be channelized into 28 DS1 channels. *See infra* note 634. They can also be unchannelized. *See* NEWTON'S TELECOM DICTIONARY 242 (18th ed. 2002) (defining DS3).

[634] A DS1 is a 1.544 Mbps first-level signal in the digital transmission hierarchy. In the time division multiplexing (continued….)

we conclude that requesting carriers are impaired on a location-by-location basis without unbundled access to incumbent LEC loops nationwide. We find, however, that some competitive carriers have been able to deploy certain high-capacity loops to particular customer locations and that some wholesale alternatives also exist at particular customer locations. Because the record does not provide the specific information necessary to identify the precise customer locations where this deployment has occurred,[635] we delegate to state commissions the authority to make findings of fact within the scope of the deployment triggers we define, to identify on a more granular scale where carriers are not impaired without access to incumbent LEC unbundled high-capacity loops.

2. Background

203. Loops in their simplest form are the transmission facilities between a central office and the customer's premises, *i.e.*, "the last mile" of a carrier's network that enables the end-user customer to receive, for example, a telephone call or a facsimile, as well as to originate similar communications.[636] Loops were included on the initial list of UNEs in the *Local Competition Order*, and even the incumbent LECs agreed that the loop network element must be

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hierarchy of the telephone network, DS1 is the initial level of multiplexing. Traditionally, 24 64 kbps DS0 channels have been multiplexed up to the 1.544 Mbps DS1 rate, with each DS0 channel carrying the digital representation of an analog voice channel. *See* TELCORDIA, INC., NOTES ON THE NETWORK, TELCORDIA TECHNOLOGIES SPECIAL REPORT, SR-2275, Issue 4, Oct. 2000, Glossary at 46 (TELCORDIA NOTES ON THE NETWORK). DS1 loops are provided over various transmission media and combinations of transmission media, including but not limited to two-wire and four-wire copper, fiber optics, or radio. DS1 loops may be channelized typically into up to 24 DS0 channels of 56/64 kbps each, or unchannelized, *i.e.*, providing a continuous bit stream for data (such as frame relay, ATM, or Internet access) or other customer applications. We note that throughout the record in this proceeding parties use the terms DS1 and T1 interchangeably when describing a symmetric digital transmission link having a total 1.544 Mbps digital signal speed. Carriers frequently use a form of DSL service, *i.e.*, High-bit rate DSL (HDSL), both two-wire and four-wire HDSL, as the means for delivering T1 services to customers. We will use DS1 for consistency but note that a DS1 loop and a T1 are equivalent in speed and capacity, both representing the North American standard for a symmetric digital transmission link of 1.544 Mbps. *See* NEWTON'S TELECOM DICTIONARY 242 (18th ed. 2002) (definition of DS1); *id*. at 718 (definition of T1); *see also* ENGINEERING AND OPERATIONS IN THE BELL SYSTEM 198-201 (R.F. Ray Technical ed., 2d ed. 1983) (channelization process for transmission of telecommunications), 369-73 (technical characteristics of DS1 loops), 386-93 (describing T-carrier hierarchy and necessary equipment); TELCORDIA, INC., NOTES ON THE NETWORK, SR-2275, section 7.7 (Dec. 2000) (describing digital data services provided over local loops) at 7-23 (overview of DS hierarchy).

[635] We do, however, determine that the record contains sufficient information to enable us to identify appropriate triggers and related criteria that will, after a more particularized analysis, identify the specific customer locations where certain types of high-capacity loop impairment does not exist. To that end, we develop a mechanism for a further level of granular inquiry by state commissions on a customer location-specific basis where our defined triggers exist. We both delegate authority to and direct state commissions to undertake more granular analyses for dark fiber loops, DS3 loops, and DS1 loops at specific customer locations based upon our defined triggers and related criteria for each of these three types of loops, as described below. These more granular impairment analyses may result in non-impairment determinations for one or more of these three types of high-capacity loop facilities at specified customer locations.

[636] *Local Competition Order*, 11 FCC Rcd at 15691, para. 380.

unbundled pursuant to sections 251(c)(3) and 251(d)(2) of the Act.[637] In the *UNE Remand Order,* the Commission broadened the definition of the loop to include all features, functions, and capabilities of these transmission facilities, including high-capacity loops, dark fiber and all attached electronics (except those used for providing advanced services).[638] The Commission also concluded that obtaining all types of loops from alternative, non-incumbent LEC sources, *i.e*., third party or self-provisioning, would impede competitive entry by materially raising entry costs; delaying entry; and limiting the scope and timeliness of competitor's offerings.[639] Accordingly, the Commission applied a one-size-fits-all approach to loops, and ordered unbundling of all incumbent LEC loops, from DS0 to OCn and dark fiber, throughout the nation.[640]

204. In the *Triennial Review NPRM*, as part of its overall inquiry about the viability of adopting more granular unbundling rules, the Commission asked whether its impairment analysis should make "service, geographic, capacity or other distinctions to the unbundled loop."[641] In addition, the Commission asked whether there were meaningful distinctions between those loops capable of providing basic services versus those capable of advanced or broadband services.[642] Finally, for high-capacity loops (DS1 and above), the Commission sought comment on whether there was a particular capacity level at which new entrants could economically self-deploy.[643]

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[637] *Id*. at 15689-90, para. 377; *see also UNE Remand Order*, 15 FCC Rcd at 3771, para. 162 n.292.

[638] *UNE Remand Order*, 15 FCC Rcd at 3772, paras. 166-67 nn.300 & 301; *see also* 47 C.F.R. § 51.319(a)(1), which defined loops as:

> Local loop. The local loop network element is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises, including inside wire owned by the incumbent LEC. The local loop network element includes all features, functions, and capabilities of such transmission facility. Those features, functions, and capabilities include, but are not limited to, dark fiber, attached electronics (except those electronics used for the provision of advanced services, such as Digital Subscriber Line Access Multiplexers), and line conditioning. The local loop includes, but is not limited to, DS1, DS3, fiber, and other high-capacity loops.

[639] *UNE Remand Order*, 15 FCC Rcd at 3772, para. 165.

[640] In the *UNE Remand Order*, the Commission did not engage in a capacity-based analysis beyond confirming that high-capacity loops were included in the definition of the loop. The Commission found that because "the wire facility used for transmission of the traffic is indistinguishable from any other copper wire" there was no reason to modify the definition of loops to describe various categories of capacity. *UNE Remand Order*, 15 FCC Rcd at 3777, para. 176. The Commission, however, did separately consider dark fiber local loops, finding the characteristics to be similar to dark fiber transport ("Because fiber is currently a more significant component of interoffice transport than the loop network element, we discuss aspects of dark fiber common to both elements when we discuss interoffice transport below."). *UNE Remand Order*, 15 FCC Rcd at 3785-86, para. 198.

[641] *Triennial Review NPRM*, 16 FCC Rcd at 22804, para. 51.

[642] *Id.* at 22804-05, para. 51.

[643] *Id.*

3. General Economic Characteristics of Loop Deployment

205. Constructing loop plant is both costly and time consuming, regardless of the type of loop being deployed.[644] Notably, both the Supreme Court and the D.C. Circuit recognized that incumbent LECs may be required to unbundle loop facilities because they are "very expensive to duplicate."[645] Because the distribution portion of the loop serves a specific location,[646] and installing and rewiring that loop is very expensive, most of the costs of constructing loops are sunk costs. Unless that loop is subsequently purchased by another provider wishing to serve that same location, a carrier's ability to recover the cost of that loop is generally constrained except in limited circumstances at certain capacity levels. While fixed costs for constructing loops are quite high, economies of scale in deployment can accrue in constructing loops to locations that are geographically close to a carrier's transport network, assuming other barriers do not preclude construction.[647] This is especially true in urban areas where the concentration of potential customer locations is very dense.[648] Conversely, because of long loop lengths required to reach more distant, geographically dispersed customers, loops are more expensive to build in rural areas, raising the average cost per loop for equipment, installation, and maintenance.[649] In addition to the cost-related barriers discussed above, competitive carriers deploying loops also face difficulties in acquiring municipal and private rights-of-ways as well as gaining building access from owners of multiunit premises.[650] These additional factors can further affect

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[644] *See, e.g.*, ALTS *et al*. Comments at 56-57 (stating that fiber deployment costs $100,000-$300,000 per mile underground, $50,000 per mile on poles, and $10,000 to $60,000 through pipelines and adding a building averages $250,000 – and that if the building is more than a mile from the competitive LEC's existing networks , it can cost more that $1,000,000 per mile to construct fiber loops in urban areas); WorldCom Comments at 74-75 (stating that it costs approximately $250,000 for a "building add" and can take six to nine months for a competitive LEC to deploy a new DS1 loop).

[645] *USTA,* 290 F.3d at 426 (citing *Verizon*, 535 U.S. 467 at n.27).

[646] This contrasts with the feeder portion of the loop which may serve multiple locations.

[647] *See, e.g.*, AT&T Comments at 134.

[648] *See, e.g.*, Letter from Douglas A. Dawson, CCG Consulting, (on behalf of 20 "network-based" competitive LECs) to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 6-7 (filed July 17, 2002) (submitting survey-based "State Of CLEC Competition") (CCG July 17, 2002 CLEC Survey *Ex Parte* Letter*)* (demonstrating that for the six major metropolitan areas surveyed the concentration of competitive LEC loop deployment is in the downtown area); Allegiance Comments at 23.

[649] In addition, we note that scale economies may particularly affect small businesses.

[650] *See, e.g.*, AT&T Reply at 174-79 (discussing other barriers linked to the incumbent LECs' historical monopoly that preclude competitive loop deployment independent of cost factors); *see also* NuVox Comments at 74; KMC Duke Aff. at paras. 7-8 (citing proprietary information), Affidavit of Joseph Polito, SNiP LiNK, Inc. (SNiP LiNK Polito Aff.) at paras. 4-7; Sprint Comments at 22; Letter from Ruth Milkman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2-3 (filed Oct. 25, 2002) (discussing building access barriers) (WorldCom Oct. 25, 2002 Building Access *Ex Parte* Letter); ALTS *et al*. Comments at 56.

competitive carriers' ability to sign up customers that need predictability in their business decisions.[651]

206. For fiber-based loops, the cost of construction does not vary significantly by loop capacity, *i.e.*, the per-mile cost of building a DS1 loop does not differ significantly from the cost to construct an OCn loop. The most significant portion of the costs incurred result from deploying the physical fiber infrastructure in the ground, rather than from lighting the fiber optical cable.[652] The ability to recover these construction costs for different loop capacities does, however, vary based on the relevant capacity level of the loop to be provided. Accordingly, a key consideration in our impairment analysis is the loop capacity level at which a competitive entrant can recover its construction costs. Similarly, the ability to overcome other operational barriers to deployment varies based on the capacity of the loop. The record confirms that loop capacity level directly affects the potential revenue stream that can reasonably be obtained to offset construction costs in an economically feasible timeframe.[653] Thus, in addition to the barriers a new entrant faces in deploying loops, we consider the revenue potential associated with particular loop capacity,[654] as well as the ability to mitigate construction delays that affect provisioning intervals as keys to determining the degree to which an entrant is impaired in deploying a particular loop capacity.

207. Unlike transport facilities, loops generally do not aggregate multiple customers' traffic. As a result, loop impairment is more closely related to the demands of the individual customer served by such loop. In that regard, customer class distinctions are useful in

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[651] *See, e.g.*, AT&T Reply at 175 (describing how it keeps statistics on "breakage," *i.e.*, instances where it initially won a customer but subsequently lost it due to delay in gaining building access to provision the customer); *see also* Sprint Comments at 23 ("Customers will not wait the months required by CLECs to acquire permits, cut streets, install additional equipment, engineer, construct, and test new facilities.").

[652] *See, e.g.*, AT&T Comments at 130; AT&T Reply at 148 (arguing that the cost of loop deployment primarily lies in the structures and rights-of-way, not in the copper or fiber conductor).

[653] *See, e.g.*, WorldCom Comments at 76; Letter from Timothy J. Regan, Senior Vice President – Government Affairs, Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 32 (filed Nov. 26, 2002) (Corning Nov. 26, 2002 *Ex Parte* Letter); Corning Comments, App. A at 10 (Cambridge Strategic Management Group, *Assessing the Impact of Regulation on Deployment of Fiber to the Home* (2002) (*CSMG Study*)).

[654] In considering potential revenue streams from the various types of loops, it is necessary to factor in the ability to enter into and enforce long-term contracts with customers. We have some evidence that certain states have adopted or are considering regulations that limit the ability of carriers to bind a customer to a long-term local service contract (*i.e.*, longer than one year) and associated termination charges. *See, e.g.*, *Missouri Public Service Commission, Southwestern Bell Telephone Company's Proposed Revisions to PSC Mo. No. 26, Long Distance Message Telecommunications Service Tariff*, Report and Order, Case Nos. TT-2002-227 *et al*. (June 27, 2002) (local service terms in excess of one year will not be permitted); California Public Utilities Commission, *Rules Governing Telecommunications Consumer Protection*, Interim Decision, Rulemaking 00-02-004, Rule 3 (June 6, 2002). To the extent such limitations exist, a carrier's ability to rely on a guaranteed long-term revenue stream from a loop to recover sunk construction costs is adversely affected.

understanding competitive carriers' decisions and economic abilities regarding deployment of loops typically used to serve customers generally associated with that particular class.

208. Consistent with our impairment framework set out above,[655] our loop analysis considers alternative transmission technologies that are capable of providing transmission to individual customers as alternatives to the incumbent LEC's loop facility. These alternative technologies may use non-wireline platforms to offer other kinds of services to customers, *i.e.*, intermodal competition, such as cable operators providing cable telephony and cable modem service in addition to cable television, or may be used solely to provide telephone and data communications service, such as fixed wireless technologies. As explained above, we will consider whether these alternative technologies permit a requesting carrier to serve the market, either through self-provisioning the necessary transmission capacity to the customer, or by obtaining the transmission capacity on a wholesale basis from other firms deploying that technology.

4. Loop Impairment by Customer Market

209. The record reflects that customers generally associated with the mass market typically use different types of loop facilities than customers generally associated with the enterprise market. We note that very small business customers, like residential customers, typically purchase analog loops, DS0 loops, or loops using xDSL-based technologies. We address the loops provisioned to these customers as part of our mass market analysis. All other business customers – whom we characterize as the enterprise market – typically purchase high-capacity loops, such as DS1, DS3, and OCn capacity loops. We address high-capacity loops provisioned to these customers as part of our enterprise market analysis.[656] We first analyze those loops generally provisioned to mass market customers and then analyze the high-capacity loops generally provisioned to enterprise customers.

210. In considering the different customer markets to inform our understanding of competitive carrier loop deployment, we note that our market classifications allow us to conduct our impairment analyses for the various loop types at a more granular level but are not intended to prohibit the use of UNE loops by customers not typically associated with the respective customer market class. For example, business customers typically associated with the enterprise market may require DS0 lines, particularly if they have remote business locations staffed by only a few employees where high-capacity loop facilities are not required.[657] Because a competitive

[655] *See supra* Part V.B.

[656] We note that through the application of our new impairment standard to high-capacity loops, including impairment analyses based on each particular loop capacity level, we have considered evidence raised by joint petitioners in the High-Capacity Loop and Transport Petition. *See, e.g.*, BellSouth, SBC, and Verizon, Joint Petition for Elimination of Mandatory Unbundling of High-Capacity Loops and Dedicated Transport, CC Docket No. 96-98 (filed Apr. 5, 2001) (High-Capacity Loop and Transport Petition). Because we base our unbundling obligations with respect to high-capacity loops on our findings of impairment and non-impairment according to our new impairment standard, we dismiss the High-Capacity Loop and Transport Petition as moot.

[657] *See, e.g.*, WorldCom Comments at 14.

carrier faces the same economic characteristics to serve these customers at their remote locations with a DS0 loop that it faces to serve residential customers served by the same loop type, our customer class distinctions are not intended to preclude a competitive LEC from obtaining an unbundled DS0 loop to serve these business customers. Similarly, a competitive LEC faces the same economic considerations in provisioning a DS1 loop to a large business customer typically associated with the enterprise market that it faces in provisioning that same loop type to a very small business or residential customer typically associated with the mass market. Thus, while we adopt loop unbundling rules specific to each loop type, our unbundling obligations and limitations for such loops do not vary based on the customer to be served.

a. Mass Market Loops

(i) Introduction

211. We conclude that requesting carriers seeking to serve the mass market face varying levels of impairment without unbundled access to the transmission path between the central office and the customer premises depending upon whether the loop used to complete this path consists entirely of copper, or consists of a hybrid of fiber and copper cables, and whether a requesting carrier seeks to offer narrowband or broadband services or both. In fact, for those loops consisting of fiber from the central office to the customer premises, *i.e.*, FTTH loops, we find no impairment on a national basis.[658] Based on our review of the record, which covers the current deployment of local loops, technological advancements in incumbent LEC outside plant, and the economic barriers and revenue opportunities facing competitive providers today with regard to loops, we conclude that incumbent LECs must provide, as UNEs pursuant to section 251(c)(3), copper loops, including copper loops conditioned to provide xDSL service. As discussed below, we also require incumbent LECs to provide competitive LECs the ability to line split, which allows two competitive LECs to split the loop so that one carrier can provide narrowband service and the other can provide broadband service.

212. As for our unbundling rules related to broadband, we recognize there are special considerations in crafting unbundling rules for loops used to provide broadband service. Broadband deployment is a critical domestic policy objective that transcends the realm of communications. While the development of broadband infrastructure is a fundamental and integral step in ensuring that consumers are able to fully reap the benefits of the information age, even more broadly, it is vital to the long-term growth of our economy as well as our country's continued preeminence as the global leader in information and telecommunications technologies. The Commission's primary regulatory challenge for broadband is to determine how we can help drive the enormous infrastructure investment required to turn the broadband promise into a reality. This challenge is squarely raised in our consideration of unbundling rules for last-mile facilities.

[658] As discussed more fully below, there is an unbundling obligation for narrowband voice services in one FTTH loop deployment scenario, *i.e.*, overbuild deployment in which an incumbent LEC constructs fiber transmission facilities parallel to or in replacement of its existing copper loop plant. *See infra* Part VI.A.4.a.(v)(b).

213. With respect to unbundling obligations for facilities used to provide broadband service, we are charged with determining the potential impact of our rules on advanced services, including those supported by broadband deployment and infrastructure investment, as directed by section 706 of the 1996 Act.[659] For this reason, we craft unbundling rules that provide the right incentives for all carriers, including incumbent LECs, to invest in broadband facilities. Thus, we decline to require unbundling on a national basis of the features, functions, and capabilities of the packetized fiber facilities of incumbent LEC hybrid loops. We require, however, incumbent LECs to provide unbundled access to the time division multiplexing (TDM) features, functions, and capabilities of their hybrid loops on a national basis. Subject to a three-year transition period explained below, we also decline to require incumbent LECs to continue to unbundle the high frequency portion of the loop. Our rules strike the appropriate statutorily required balance between ensuring competitive access and maintaining incentives to invest in next-generation networks.

(ii) Mass Market Loop Types

214. At its most basic level, a local loop that serves the mass market consists of a transmission medium, which almost always includes copper wires of various gauges. The loop may include additional components (*e.g.*, load coils, bridge taps, repeaters, multiplexing equipment) that are usually intended to facilitate the provision of narrowband voice service.

215. As a general matter, incumbent LECs use two local exchange network configurations to connect customers to their switching systems. First, carriers connect customers directly to a central office via a loop dedicated solely to a particular customer. In this configuration, the local loop consists of a single cable pair – for copper loops, this is often referred to as "home-run copper."[660] For the mass market, carriers can use copper loops to provide both narrowband voice service and broadband xDSL services.[661] Providing broadband service requires the use of special equipment, such as DSLAMs[662] located in the central office (or

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[659] 47 U.S.C. § 157 nt.

[660] *See, e.g.*, Letter from Stephen C. Gray, President, McLeodUSA, to William Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 96-98, 98-147, 01-338, 02-33 at 8 (filed Dec. 18, 2002) (McLeodUSA Dec. 18, 2002 *Ex Parte* Letter). McLeod states that customers are served by "a connected-through copper loop, with a direct analog electrical connection between the customer's network interface and the central office main distribution frame" or one of two types of DLC systems.

[661] Subject to certain distance limitations, a carrier can provide various types of xDSL service over a copper loop with appropriate conditioning. We use the term "xDSL" to refer to DSL as a generic transmission technology, as opposed to a specific type of DSL such as ADSL (asymmetric digital subscriber line), HDSL (high-speed digital subscriber line), UDSL (universal digital subscriber line), VDSL (very-high speed digital subscriber line), and RADSL (rate-adaptive digital subscriber line).

[662] DSLAMs send the customer's voice traffic to the public, circuit-switched telephone network and the customer's data traffic (combined with that of other xDSL users) to a packet-switched data network. *See Line Sharing Order*, 14 FCC Rcd at 20920, para. 9; *see also* Walter Goralski, ADSL AND DSL TECHNOLOGIES at 252-60 (describing DSLAMs).

remote terminals in the incumbent LEC's outside plant) and xDSL modems or other equipment at the customer's premises.

216. Second, incumbent LECs deploy "feeder plant" to a centralized location (referred to as a "remote terminal") where the carrier aggregates "distribution plant," *i.e.*, copper cable pairs that are used to serve individual customers. In this second configuration, then, the local loop portion of the network consists of two parts, *i.e.*, feeder plant and distribution plant.[663] The feeder plant consists of a large number of high-capacity cable pairs to accommodate a large volume of telecommunications traffic. In recent years, carriers have started deploying fiber optic cable in the feeder plant to handle more efficiently the increasing volume of traffic (although some legacy technologies continue to require use of copper feeder plant).[664] By contrast, the distribution plant consists generally of many copper cable pairs, *i.e.*, one direct connection or transmission path to each customer premises.

217. Carriers use digital line carrier (DLC) systems to aggregate the many copper loops that terminate at a remote terminal location,[665] multiplex such signals onto a fiber or copper feeder loop facility, and transport them to the carrier's central office.[666] These DLC systems may be integrated directly to the carrier's switch (*i.e.*, Integrated DLC systems) or not (*i.e.*, Universal

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[663] TELCORDIA NOTES ON THE NETWORK at § 12 (describing LEC distribution networks); AT&T Comments at 184-86; AT&T Reply at 149. We recognize that carriers may categorize their outside plant facilities into three sections, *i.e.*, feeder, distribution, and customer drops. *See* AT&T Reply at 149. For the purposes of our unbundling analysis, we consider customer drops to be part of an incumbent LEC's distribution plant.

[664] WorldCom Comments, Joint Declaration of Tom Stumbaugh and David Reilly (WorldCom Stumbaugh/Reilly Joint Decl.) at paras. 8-10; Letter from Leonard G. Ray, Government Relations Committee Chairman, FTTH Council, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 10 (filed Jan. 8, 2003) (FTTH Council Jan. 8, 2003 FTTH Deployment *Ex Parte* Letter) (noting that fiber feeder optimized the network for voice transmission); Letter from Kimberly Scardino, Senior Counsel, WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 96-98, 98-147, 01-338 at 2 (filed Dec. 12, 2002) (WorldCom Dec. 12, 2002 Next-Generation Networks *Ex Parte* Letter).

[665] Although there are different varieties of DLC systems, they typically consist of cross-connect and multiplexing equipment that are housed in remote terminals, which are intended to house a limited amount of equipment. There are three basic types of remote terminals: (1) huts, which are above-ground structures with environmental control capabilities; (2) controlled environmental vaults (CEVs), which are below-ground structures that are accessed through manholes and contain environmental control capabilities; and (3) cabinets, which are above-ground structures that are typically designed as an integrated system. *See Ameritech Corp., Transferor, and SBC Communications, Inc., Transferee, For Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95, and 101 of the Commission's Rules*, CC Docket No. 98-141, Second Memorandum Opinion and Order, 15 FCC Rcd 17521, 17539, para. 34 n.94 (2000) (*Pronto Modification Order*) (describing remote terminals).

[666] Carriers historically deployed local loops on a one-for-one basis, *i.e.*, one direct copper cable pair connecting a customer to the central office. WorldCom Stumbaugh/Reilly Decl. at para. 7. Carriers started using DLC for feeder pair relief in urban areas. *Id.* at para. 9.

DLC systems).[667] Through the use of feeder loop plant and DLC systems, carriers can reduce the costs of constructing, deploying, and maintaining their outside plant.[668]

218. Although originally deployed to manage voice networks, carriers now use DLC systems to provide both voice and data services. Technological improvements have enabled carriers to use DLC systems to deliver broadband services (*e.g.*, ADSL) in addition to narrowband services.[669] In particular, manufacturers have developed "line cards" that can be installed (along with other components) into a DLC system to provide broadband services, or a combination of broadband and narrowband service, to customers served by DLC systems.[670] By deploying this DSLAM functionality in a DLC system, carriers can serve customers whose copper loop facility would otherwise be too long to support the provision of xDSL service.[671] To do so has generally required incumbent LECs deploying this technology to segregate and minimize the traffic in a different way – that is, carriers dedicate a segment of their feeder plant to serving narrowband voice traffic and another segment to serving broadband traffic.[672] The

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[667] Universal DLC systems consist of a "central office terminal" and a "remote terminal," *i.e.*, a DLC system in the carrier's central office terminal mirrors the deployment at the remote terminal. Notes on the Network at § 12.6. By contrast, an Integrated DLC system does not require the use of a central office terminal because the DLC system is integrated into the carrier's switch (thus, the naming convention). *Id.* § 12.7; *see also* Letter from David R. Conn, Deputy General Counsel, McLeodUSA, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 96-98, 98-147, 01-338, 02-33 at 8 (filed Nov. 15, 2002) (McLeodUSA Nov. 15, 2002 DLC systems *Ex Parte* Letter); McLeodUSA Dec. 18, 2002 *Ex Parte* Letter at 8; *see also* TELCORDIA NOTES ON THE NETWORK at 2-2 to 2-5 (describing DLC systems).

[668] TELCORDIA NOTES ON THE NETWORK at § 12.6-12.7.

[669] WorldCom Stumbaugh/Reilly Decl. at paras. 9-11 (describing technological developments in DLC systems); AT&T Reply at 152-53 (noting that incumbent LECs can upgrade existing DLC systems by replacing the line cards installed in such systems). In their original form, carriers connected DLC systems to copper transmission facilities that comprised the feeder loop plant. The DLC system would convert analog signals transmitted from the customer's premises to digital signals suitable for transmission over the carrier's network. By the late 1990s, carriers were purchasing "Next Generation Digital Loop Carrier" (NGDLC) systems, which were designed for use with fiber optic cable. In addition to the fiber capability, NGDLC systems have more flexible and remote configuration capabilities than their predecessors and, depending on the manufacturer, they may contain additional features like the ability to provide broadband services. *See* Walter Goralski, ADSL AND DSL TECHNOLOGIES, 273 (1998); NEWTON'S TELECOM DICTIONARY 510 (18th ed. 2002) (defining NGDLC systems as "DLC [that] can receive and aggregate large amounts of bandwidth (higher than T-1)); *see also* Letter from Jim Lamourex, Senior Counsel, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 1-2 (filed Dec. 12, 2002) (SBC Dec. 12, 2002 *Ex Parte* Letter) (stating that SBC "considers DLC that provides both time slot interchanger and xDSL functionality as NGDLC.").

[670] Alcatel Comments at 26; Catena Comments in CC Dkt. Nos. 02-33, 95-20, and 98-10, at 5 n.7 (describing Catena's DLC system upgrade); WorldCom Stumbaugh/Reilly Decl. at para. 13; Alcatel Reply at 6; *see Pronto Modification Order*, 15 FCC Rcd at 17523-31, paras. 4-19 (describing SBC's DLC network architecture used to provide broadband service).

[671] WorldCom Stumbaugh/Reilly Decl. at para. 13.

[672] *Id.* at para. 15; Letter from W. Scott Randolph, Director – Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-337, 01-338, 96-98, 98-147, 02-33 at 10 (filed Sept. 30, 2002) (continued….)

feeder loop plant transporting voice traffic connects to the carrier's switch in its central office (often through intermediate electronics in the central office).[673] By contrast, the feeder loop plant transporting the broadband signal terminates at a packet switch (usually referred to as an "optical concentration device" or OCD) also located in the carrier's central office.[674]

219. In recent years, carriers have started deploying FTTH – that is, using fiber optic cable to replace traditional copper loops. Whereas the use of fiber feeder plant and DLC systems is an augmentation of the existing network and relies on the continued use of copper (albeit to a lesser degree) in the loop plant, FTTH is essentially a broad replacement of the existing loop plant. The use of fiber optic cable requires the deployment of network equipment with different features and capabilities from comparable equipment used for copper cable. As noted above, deployment of FTTH loops – that is, a transmission path consisting entirely of fiber optic cable and associated equipment between the customer's premises and the central office – remains in its infancy.

220. Carriers use different technologies to transport telecommunications over their networks. As digital transmission technologies replaced analog systems, carriers started using TDM to combine multiple transmission paths onto a single cable.[675] TDM provides a transmission path by dividing a circuit into time slots and providing a dedicated time slot to an end user for the duration of the call. More recently, carriers have started using packet-switched technologies (*e.g.*, ATM or frame relay) to combine different types of traffic over shared facilities.[676] By using packet-switched technology, carriers can transmit voice, fax, data, video, and other over a single transmission path at the same time.

221. In light of the foregoing, we find that our unbundling rules for local loops serving the mass market must account for these different loop architectures. Therefore, we craft unbundling rules specific to each different loop type. First, we address our unbundling rules for loops consisting of copper pairs of various gauges and associated electronics (*e.g.*, load coils,

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(Verizon Sept. 30, 2002 *Ex Parte* Letter) (submitting diagram showing the use of two parallel feeder loops to provide broadband service through DLC systems).

[673] Alcatel Reply at 6 (explaining that voice and data traffic are segregated in the incumbent LEC's central office).

[674] AT&T Comments at 187-89; Covad Comments at 65; WorldCom Comments at 108; WorldCom Stumbaugh/Reilly Decl. at para. 13; Letter from Jonathan J. Boynton, Associate Director – Federal Regulatory, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 5 (filed Jan. 15, 2003) (SBC Jan. 15, 2003 *Ex Parte* Letter); Verizon Sept. 30, 2002 *Ex Parte* Letter at 10. Several parties explain that an OCD is equivalent to a main distribution frame. *See, e.g.*, Covad Comments at 65 (noting that the OCD demultiplexes data transmissions from the fiber feeder and distributes the signal to its next destination).

[675] *See, e.g.*, Walter Goralski, ADSL AND DSL TECHNOLOGIES 77-98 (1998) (describing differences between packet-switched and circuit-switched networks); Walter Goralski, SONET 99-108 (2d. ed. 2000) (describing T-carrier and different multiplexing techniques).

[676] For example, some carriers use packet-switching technology as the building blocks of their networks. *See, e.g.*, NewSouth Comments at 11-13 (describing use of packet-switching technology in its network).

repeaters, multiplexers), which we refer to as copper loops. Second, we address our unbundling rules for loops consisting of DLC systems that are fed by fiber optic cable, which we refer to as "hybrid loops." Finally, we address our unbundling rules for loops consisting entirely of fiber optic cable, which we refer to as FTTH loops.

(iii) Evidence of Loop Deployment

222. The record indicates that deployment of alternative local loop facilities for the purposes of providing telecommunications services to the mass market has been minimal. The record also indicates, however, that there is evidence that other types of network facilities deployed primarily for other purposes (*e.g.*, cable television systems, satellite technologies) can and are increasingly being modified to support the delivery of narrowband and broadband services, particularly telephony and high-speed Internet access services, to the mass market. As a general matter, while these systems are increasingly being used for the delivery of retail narrowband and broadband services (*e.g.*, telephony and high-speed Internet access services), the record indicates that such systems are not being used currently to provide wholesale local loop offerings that might substitute for access to incumbent LECs' loop facilities.

223. The factual record consists of three parts. First, several parties submitted detailed studies describing local loop deployment and conditions surrounding competitive access to local loops.[677] Second, many parties described their network operations, experiences, and future deployment plans in comments and *ex parte* letters.[678] Finally, the Commission staff has

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[677] *See, e.g.*, BOC UNE Fact Report 2002; Letter from Dee May, Assistant Vice President, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Oct. 23, 2002) (submitting *UNE Rebuttal Report 2002* commissioned by the BOCs); CCG July 17, 2002 CLEC Survey *Ex Parte* Letter. These studies in turn rely on additional evidence to support their conclusions, such as briefings to the investment community, analyst reports, newspaper articles, and trade industry reports. Some commenters argue that unbundling requirements decrease incumbent LECs' financial rewards from selling future broadband services by increasing the risk of investment, thereby decreasing the amount of investment incumbent LECs will make in broadband infrastructure. *See, e.g.*, Corning Comments at 5-9; HTBC Comments at 28-33, App. A (submitting John Haring and Jeffrey H. Rohlfs, *The Disincentives for ILEC Broadband Deployment Afforded by the FCC's Unbundling Policies* (July 16, 2002)); Verizon Comments at 27-32 (submitting Declaration of Alfred E. Kahn and Timothy J. Tardiff); Letter from Matthew J. Tanielian, Vice President – Governmental Relations, ITI – Information Technology Industry Council, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Apr. 22, 2002) (HTBC Apr. 22, 2002 *Ex Parte* Letter); Letter from W. W. Jordan, Vice President – Federal Regulatory, BellSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Oct. 15, 2002) (BellSouth Oct. 15, 2002 *Ex Parte* Letter). By contrast, other commenters argue that unbundling requirements do not decrease the incentives for BOCs to provide broadband services over fiber-fed loops. *See, e.g.*, AT&T Willig Decl. at paras. 15, 175; Letter From Jason D. Oxman, Vice President and Assistant General Counsel, Covad, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Nov. 22, 2002) (Covad Nov. 22, 2002 *Ex Parte* Letter); Covad Murray Reply Decl. at paras. 99-113; Letter from C. Frederick Beckner III, Counsel for AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 4 (filed Dec. 6, 2002) (AT&T Dec. 6, 2002 *Ex Parte* Letter).

[678] *See, e.g.*, ACS Reply at 5-6 (describing market conditions in Alaska); BellSouth Rely, Reply Declaration of Prof. Robert G. Harris (BellSouth Harris Reply Decl.) at paras. 11-21 (submitting projections and market data related to broadband services); New York State Attorney General Reply at 4, 9-11 (describing competitive entry in New York); Letter from Rebecca H. Sommi, Vice President Operations Support, Broadview Networks, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Oct. 16, 2002) (Broadview Oct. 16, 2002 (continued….)

published reports arising from its monitoring of the deployment of advanced telecommunications capability and the development of local competition throughout the country.[679]

224. Relying on these sources, the record shows that incumbent LECs continue to control the vast majority of voice-grade local loops throughout the nation. The Commission staff's recent *Local Telephone Competition December 2002 Report* noted that incumbent LECs served approximately 167.5 million switched access lines, or approximately 88.6 percent of the national market.[680] The record reflects a significant growth in the amount of fiber incumbent LECs are deploying in the local loop, with most of this deployment occurring in the feeder plant rather than the distribution plant. According to some estimates, upwards of 30 percent of incumbent LEC access lines are now supported by the use of mixed fiber-copper loop facilities.[681]

(a) Self-Deployment

225. The record reflects that competitive LECs have not self-deployed alternate copper local loops to provide telecommunications services (or packages of telecommunications and other services) to the mass market. Moreover, the record indicates that, in those limited cases where competitors are deploying alternative loop facilities, competitive LECs are using fiber, although such deployment continues to be targeted primarily to serving the enterprise market rather than the mass market. We recognize, however, that potential self-deployment could use existing wireline telephony technologies and facilities or could employ other approaches that bear little or no resemblance to the current network architecture of the incumbent LECs.

226. No party seriously asserts that competitive LECs are self-deploying copper loops to provide telecommunications services to the mass market. Indeed, in the BOC UNE Fact Report 2002, the BOCs provide no evidence that competitive LECs have made any progress towards replicating the incumbent LECs' embedded base of voice-grade copper local loops.[682] Likewise, no competitive LEC claims to have made, let alone attempted to make, such progress. Competitive LECs generally argue that building new local loops to serve the mass market would

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Ex Parte Letter); Letter from Jason Oxman, Vice President and Assistant General Counsel, Covad, to William Maher, Chief, Wireline Competition Bureau, FCC, CC Docket No. 01-338 (filed Oct. 15, 2002) (Covad Oct. 15, 2002 Broadband Deployment *Ex Parte* Letter); Letter from Thomas Jones, Counsel for Allegiance, to William Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3-4 (filed Dec. 12, 2002) (Allegiance Dec. 12, 2002 *Ex Parte* Letter).

[679] *See Seventh Wireless Report 2002*; *Third Section 706 Report 2002*, 17 FCC Rcd at 2844.

[680] *Local Telephone Competition December 2002 Report* at Table 1.

[681] Covad Comments at 55 n.105 (citing *Trends in Telephone Service May 2002 Report* at Table 18.3 (21.7% of working telecommunications channels are fiber)); AT&T Reply at 80 (citing *Trends in Telephone Service May 2002 Report* at Table 18.3 (32.5% of working telecommunications channels are fiber)).

[682] In their UNE Fact Report, the BOCs rely primarily on intermodal sources to argue that viable alternatives exist to incumbent LEC local loop facilities. We address these arguments below.

be prohibitively expensive.[683] Considered as a whole, the record indicates that competitive LECs rely primarily on unbundled local loops to serve the mass market on a nationwide basis.[684]

227. The record demonstrates that current deployment of FTTH for providing telecommunications services to the mass market is still in its infancy.[685] Corning, for example, presents evidence of FTTH deployment to approximately 26,000 homes and asserts that competitive LECs account for 77 percent of this FTTH deployment to date.[686] The record shows further that some competitive LECs are self-deploying fiber transmission facilities primarily to serve business customers in downtown locations.[687] The record also shows that competitive LECs are self-deploying fiber transmission facilities to the mass market in certain circumstances. In particular, competitive LECs are competing in so-called "greenfield" markets, which require entirely new construction of local loops (in addition to the deployment of the necessary switching and other network equipment) to serve new residential communities.[688] According to at least one study, non-incumbent LEC providers (*i.e.*, competitive LECs and municipalities) have deployed 90 percent of current FTTH.[689] We also note that the Commission staff's *High Speed Services December 2002 Report* found that parties *other than* incumbent LECs deployed 92 percent of FTTH and fixed wireless service lines.[690]

(b) Intermodal Loops

228. The record presents some evidence that intermodal platforms increasingly support the provision of narrowband and broadband services to the mass market. In particular, the record indicates that cable and wireless technologies are currently being used, and will likely

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[683] *See* Covad Comments at 16-18; AT&T Comments at 132.

[684] CompTel Reply at 24 (citing statistics compiled by Commission staff showing that competitive LECs serve 23% of the access lines in New York, 14% of the access lines in Texas, and 13% of the access lines in Illinois). Incumbent LECs assert that competitive LECs have deployed on a national basis somewhere between 16 and 23 million loops based on their interpretation of data in E911 databases. *See* BOC UNE Fact Report 2002 at I-5, II-4, and A-2. We note that CompTel's data, among other competitive LECs', are generally closer to those published by the Commission in the *Local Telephone Competition December 2002 Report*.

[685] AT&T Reply at 74.

[686] Corning Reply at 12 (citing *CSMG Study* at 51). In other studies submitted on the record, Corning estimates that competitive LECs account for 68% of the FTTH deployment nationwide. *See* Corning Nov. 20, 2002 *Ex Parte* Letter at 7.

[687] CCG July 17, 2002 CLEC Survey *Ex Parte* Letter at 6 (noting that five competitive LECs are deploying fiber in Chicago and four competitive LECs are deploying fiber in Boston and Portland).

[688] BOC UNE Fact Report 2002 at IV-16.

[689] FTTH Council Second Reply at 2.

[690] *High Speed Services December 2002 Report* at Table 5. In that report, staff found that, as of June 2002, carriers provided 6,120 fiber lines capable of supporting data transmissions over 200 kbps in at least one direction. *See id.* at Table 3.

increasingly be used, to provide loop substitutes to support services that compete with incumbent local services.[691]

229. Cable companies have widely deployed local broadband service in the form of high-speed Internet access offered via cable modem service. As of June 2002, cable companies provided more than 9.1 million high speed lines for Internet access to consumers nationwide and the service is available to more than 70 million homes in the nation.[692] Some cable companies also have augmented their networks to enable the provision of two-way voice telephony services.[693] For such services, the cable infrastructure serves as a replacement for loops. At this time, however, deployment of voice telephony by cable companies has been substantially exceeded by the deployment of cable modem service.[694] In their *UNE Fact Report*, the BOCs note that 1.5 million homes[695] subscribe to cable telephony on a nationwide basis. The record indicates that circuit-switched cable telephony has been deployed in portions of 20 states and is now available to about 10 million households in the United States, or about 9.6 percent of the total households in the nation.[696] Because companies originally deployed cable television systems for the provision of a one-way mass media service, retrofitting cable infrastructure to support cable telephony and broadband services requires substantial investment and modification.[697] For those cable operators that have not already augmented their networks to

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[691] BOC UNE Fact Report 2002 at IV-8 to IV-14. Current estimates are that only 1.7% of U.S. households rely on other technologies to replace their traditional wireline voice service. Allegiance Reply at 35 n.38.

[692] Cable companies provided 9,172,895 high speed lines for Internet access as of June 30, 2002. *High Speed Services December 2002 Report* at Table 1. *See* Letter from Jason D. Oxman, Vice President and Assistant General Counsel, Covad, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, Declaration of Stephen Siwek and Su Sun (Covad Siwek/Sun Decl.) at paras. 58-59 (filed Nov. 20, 2002) (Covad Nov. 20, 2002 *Ex Parte Letter*). Some parties estimate that cable modem service is available to two-thirds or more of the homes in the nation. BOC UNE Fact Report 2002 at IV-12 n.59 (estimating that cable modem service is available to 70-75 million homes).

[693] BellSouth Comments at 64 (noting cable companies upgraded to provide voice in Atlanta, Jacksonville, Miami and Louisville); Letter from Florence M. Grasso, Covad, to Marlene M. Dortch, Secretary, FCC, Docket Nos. 01-338, 96-98, 98-147 at 6 (filed Apr. 19, 2002) (Covad Apr. 19, 2002 *Ex Parte* Letter) (noting cable companies spent $55 billion to upgrade their facilities).

[694] As of June 2001, only 1% of all local access lines terminated over coaxial cable facilities. For example, AT&T notes that UNE-P providers in New York alone have as many customers as cable-provided telephony does on a nationwide basis. AT&T Reply at 26.

[695] BOC UNE Fact Report 2002 at IV-10. There are approximately 108.3 million households in the nation. *See* Industry Analysis and Technology Division, Wireline Competition Bureau, *Telephone Subscribership in the United States* (Nov. 8, 2002) at Table 1 (*Telephone Subscribership November 2002 Report*).

[696] BOC UNE Fact Report 2002 at II-11, IV-10 (noting that Cox has the capability to offer cable telephony to "75 to 95 percent" of the consumers in Rhode Island).

[697] WorldCom Comments at 35-36, Attach. A at 23, 25-27 (Richard A. Chandler, A. Daniel Kelley, David M. Nugent, *The Technology and Economics of Cross-Platform Competition in Local Telecommunications Markets* (Apr. 4, 2002) (HAI Report)). Although precise numbers are difficult to assemble because much of the necessary information is not publicly available, there is substantial evidence in our record concerning actual and projected completion of cable plant upgrades necessary to provide voice and data services. For example, according to a (continued….)

offer cable telephony, which encompasses the majority of the cable networks currently in operation, significant technical and operational issues must still be resolved.[698] Thus, it is difficult to predict at what point cable telephony will be deployed on a more widespread and ubiquitous basis. In addition, the record reflects that a number of cable operators are delaying their deployment of voice telephony until they are able to deploy such services over a packet-switched platform.

230. The record also shows that narrowband local services are widely available through CMRS providers. As discussed in Part IV above, one study estimates that 64.3 million households (*i.e.*, 61 percent of all U.S. households) use wireless phones.[699] The record shows that CMRS, while continuing to be primarily a complementary technology to wireline narrowband service, is growing as a substitute to wireline narrowband service with about three to five percent of CMRS subscribers using their service as a replacement for *primary* fixed voice wireline service.[700] While this percentage is small, it continues to show increasing growth. Indeed, the Commission recently relied on wireless substitution to support the Track A findings in two section 271 proceedings where residential customers in New Mexico and Nevada had replaced their landline phones with wireless ones.[701] In addition, the record demonstrates that,

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Yankee Group Report, at the end of 2000, 50% of United States households had cable modem service available and this percentage was predicted to exceed 80% by the end of 2005. BellSouth Comments at 39 (citing *Broadband Access Technology: Whose Number is Up?*, Yankee Group Report (Sept. 19, 2001)). BellSouth offered more recent numbers: at the end of 2001, 70% of United States households had cable modem service available. BellSouth Reply at 48 (citing BellSouth Harris Reply Decl. at para. 9).

[698] For example, potential cable telephony providers must determine how to provide power to the consumer premises equipment (wireline systems utilizing copper facilities already provide power through the same network telephony service is provided, thus ensuring continuous access to telecommunications in the event of power outages) and ensure accurate 911 service. Allegiance Reply at 33. Allegiance notes that incumbent LEC comments rely not on current deployment but on predictions such as whether Comcast will deploy telephony after merger with AT&T and future deployment of IP telephony over cable networks.

[699] *See* BOC UNE Fact Report 2002 at IV-12 (citing *Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993*, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, Sixth Report, 16 FCC Rcd 13350, 13381 n.211 (2001) (*Sixth Wireless Report 2001*). Wireless phones are now a mass market consumer device used by some 45% of the United States. *Seventh CMRS Report* at 31. One study estimates that 64.3 million households (*i.e.*, 61% of all U.S. households) use wireless phones. *Id*. By contrast, 103.4 million households (*i.e.*, 95.5% of all U.S. households) own and use wireline telephones. *Telephone Subscribership November 2002 Report* at Table 1. BellSouth Comments at 64 (arguing wireless is a substitute for wireline).

[700] *See Seventh CMRS Report* at 32 n.208; *see also* BOC UNE Fact Report 2002 at IV-12 (citing *Sixth Wireless Report 2001*, 16 FCC Rcd at 13381 n.211).

[701] *See Application by SBC Communications Inc., Nevada Bell Telephone Company, and Southwestern Bell Communications Services, Inc., for Authorization to Provide In-Region, InterLATA Services in Nevada*, WC Docket No. 03-10, Memorandum Opinion and Order, 18 FCC Rcd 7196, 7206, para. 18 (2003) (*SBC Nevada 271 Order*); *Application by Qwest Communications International, Inc. for Authorization to Provide In-Region, InterLATA Services in New Mexico, Oregon and South Dakota*, WC Docket No. 03-11, Memorandum Opinion and Order, 18 FCC Rcd 7325, 7336 n.53 (2003) (*Qwest New Mexico 271 Order*); *see also In the Matter of Application of* (continued….)

although promising, wireless CMRS connections in general do not yet equal traditional landline local loops in their quality, their ability to handle data traffic, and their ubiquity.[702] Finally, the record indicates that CMRS is not yet capable of providing broadband services to the mass market – although a growing number of wireless carriers make available Internet access, such access is generally limited to transmissions of 25 to 66 kbps.[703]

231. The record indicates that, at present, fixed wireless and satellite services remain nascent technologies, with limited availability, when used to provide broadband services to the mass market. Although current satellite services may be available in all 50 states, their transmission capabilities remain limited and their mass market services have few subscribers.[704] For example, combined, satellite and fixed wireless provide broadband services to approximately 200,000 customers nationwide.[705] In addition, recent financial difficulties of fixed wireless carriers suggest the potential to use such services as substitutes for local loops used to serve the mass market is limited, at least for the short term.[706]

232. Finally, we note that other technologies that can substitute for loops in providing narrowband and broadband service are currently under development. For example, some companies are experimenting with delivering narrowband voice service via power lines.[707] Such technologies have not been deployed beyond an experimental basis (*e.g.*, technical trials) at this time.

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BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., for Provision of In-Region, Interlata Services in Louisiana, CC Docket No. 98-121, Memorandum Opinion and Order, 13 FCC Rcd 20599, 20606, 20622-23, paras. 11, 29-33 (1998) (*BellSouth Louisiana II 271 Order*) (finding that PCS can be a substitute for wireline service).

[702] BellSouth Comments at 41 (stating that wireless is "[not] very effective in transmitting large amount of data at high speed."). AT&T points out, for example, that wireless service is engineered to provide only roughly 70% call completion rate while wireline call completion rates exceed 99%. AT&T Reply at 25; *see also id.* at 162-63.

[703] *Seventh CMRS Report* at 53-54. By the end of 2001, approximately eight to ten million people accessed the Internet through their wireless telephones, up from 2 to 2.5 million the year before. *Id*. at 53.

[704] *See, e.g.*, WorldCom Comments at 4, 47, Attach. A at 76-78.

[705] *See High Speed Services December 2002 Report* at Table 3.

[706] *See* Sprint Comments at 24-25; *see also* Covad Siwek/Sun Decl. at paras. 49-57 & Schedule 5 (arguing that consumers are not buying satellite broadband because it does not work well in inclement weather, requires unobstructed view of southern sky, and is too expensive); Letter from Florence Grasso, Covad, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 6 (filed Oct. 21, 2002) (Covad Oct. 21, 2002 *Ex Parte* Letter).

[707] *See* Committee on Broadband Last Mile Technology, Computer Science and Telecommunications Board, National Research Council, BROADBAND: BRINGING HOME THE BITS 135-36 (2002).

(c) Third-Party Offerings

233. The record indicates that no third parties are effectively offering, on a wholesale basis, alternative local loops capable of providing narrowband or broadband transmission capabilities to the mass market.[708] This includes intermodal platforms such as cable and satellite that have no statutory or regulatory obligation comparable to the unbundling requirements of section 251(c).[709] We note that, in their various reports and other submissions, the incumbent LECs have not demonstrated that third parties are offering alternate local loop transmission on a wholesale basis.

(iv) Unbundling Analysis

234. We engage in a balancing test in determining our unbundling requirements for mass market local loops. We recognize, of course, that impairment remains our statutory touchstone. We do not rely exclusively, however, on an impairment analysis to make our unbundling determination. We retain the flexibility under our section 251(d)(2) "at a minimum" authority to consider other factors. We use this flexibility sparingly. However, we believe that the goal of swift and ubiquitous broadband deployment is so important to the United States that we consider the statutory goals outlined in section 706 and how they relate to broadband as additional factors when considering loops. In addition, we also consider the comparative weight of the costs versus benefits of unbundling and the effect of intermodal competition.[710] As explained below, based on our analysis of impairment and evaluation of other factors, we adopt loop unbundling rules for the mass market that ensure competitive access through extensive unbundling of the legacy copper loop facilities while promoting incentives to invest in next-generation network facilities and equipment through more limited unbundling of fiber-based loop facilities.

235. We conclude that requesting carriers seeking to serve the mass market face varying levels of impairment on a national basis without unbundled access to the transmission path between the central office and the customer premises depending upon whether the loop used to complete this path consists entirely of copper, or consists of a hybrid of fiber and copper cables, and whether a requesting carrier seeks to offer narrowband or broadband services or both. Pursuant to our section 251(d)(2) unbundling standard, we consider generally whether the potential revenue opportunity exceeds the costs, taking into consideration the relevant entry barriers – *i.e.*, scale economies, sunk costs, first-mover advantages, and barriers within the control of the incumbent LEC – and evidence of actual marketplace conditions.

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[708] Covad Comments at 35 (no copper alternative); *see also* Access Integrated Networks Reply at 13; Allegiance Reply at 32-33 (contending that incumbent LEC arguments are based on predictions and speculation rather than actual marketplace conditions).

[709] Covad Comments at 36-37 (arguing cable, wireless satellite and competitive fiber are not capable of providing xDSL quality or ubiquity); *see* AT&T Reply at 95-98, 161-63; WorldCom Reply at 87.

[710] *See supra* Part V.D.

236. Because of the importance of broadband to the American public and telecommunications users generally, we also consider other factors, foremost among these our obligation to ensure adequate incentives for infrastructure investment under section 706 of the Telecommunications Act of 1996, under our "at a minimum" authority in section 251(d)(2). For copper loops, we find on a national basis that requesting carriers are impaired without access to these loops, including copper subloops, because their absence is likely to make entry uneconomic.[711] For other types of loops (*i.e.*, FTTH loops and hybrid fiber/copper loops used in packet-based transmissions), however, we recognize that additional revenue opportunities associated with increased bandwidth capabilities may alleviate, in direct proportion to the level of fiber deployment, at least some of these entry barriers. Moreover, our obligation to ensure adequate infrastructure investment incentives pursuant to section 706 supports limitations on the unbundling of fiber-based loops. Finally, the existence of intermodal competition for mass market broadband services reduces the need for more extensive unbundling rules.

(a) Impairment

237. The costs of local loops serving the mass market are largely fixed and sunk. By fixed we mean that these costs are largely insensitive to the number of customers being served.[712] Much of the cost applies whether a carrier serves a single residential customer or ten thousand residential customers: that carrier must secure rights-of-way, dig trenches or place poles, and run wire underground or along poles.[713] Such deployment costs are also sunk. That is, local loop facilities are not fungible because they cannot be used for any other purpose if the investment fails.[714] If a new entrant overbuilds to serve a mass market customer and loses that customer to another carrier, the new entrant cannot economically redeploy that loop to another location. Its investment might be lost unless it could find a purchaser for its redundant loops. This is true regardless of whether the new entrant was providing narrowband or broadband service, or both. A carrier will not deploy mass market loops unless it knows in advance that it will have

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[711] In its *Verizon* decision, the Supreme Court stated that "the most costly and difficult part of [replicating the incumbent LEC's network] would be laying down the 'last mile' of feeder wire, the local loop, to the thousands (or millions) of terminal points in individual houses and businesses." *Verizon*, 535 U.S. at 490-91. Indeed, in its *USTA* decision, the D.C. Circuit quotes the following passage from this Supreme Court decision in its discussion of cost disparities: "entrants may need to share some facilities that are *very expensive to duplicate* (say, loop elements) in order to be able to compete in other, *more sensibly duplicable* elements (say, digital switches or signal-multiplexing technology)." *USTA*, 290 F.3d at 426 (citing *Verizon*, 535 U.S. at 510 n.27) (emphasis added by D.C. Circuit).

[712] Covad Comments at 28; AT&T Reply at 150, 154-55 (citing AT&T Comments, Attach. B, Declaration of Richard N. Clarke (AT&T Clarke Decl.) at para. 23); WorldCom Reply at 14-18 (citing WorldCom Reply, Attach. A, Declaration of Mark T. Bryant (WorldCom Bryant Reply Decl.) at paras. 3, 5-14).

[713] *See* Covad Comments at 28 (arguing that incumbents could afford such massive fixed costs because they had 100% of the market share when they constructed their loop plant); WorldCom Reply at 63 (citing WorldCom Bryant Reply Decl. at para. 11). We note that fixed costs may strongly affect small businesses because, among other things, they likely serve fewer customers. See *supra* Part V.B. for a discussion of the relationship between fixed costs and scale economies.

[714] AT&T Reply at 144; WorldCom Reply at 16.

customers that will generate sufficient revenues to allow it to recover its sunk loop investment.[715] This certainty could most easily be achieved through long-term service contracts and a large, guaranteed customer base. In contrast to the enterprise market, however, long-term contracts are not commonplace in the mass market for either the narrowband or the broadband services and we have no information in our record to indicate that consumers ordinarily would accept such terms.[716] As new entrants, competitive LECs do not enjoy a large guaranteed subscriber base that would provide a predictable source of funding to offset their local loop deployment costs.[717] For these reasons, we find that the costs of self-provisioning mass market loop facilities are demonstrably greater than those faced universally by new entrants in other industries.[718]

238. Incumbent LECs also enjoy first-mover advantages that work with the steep costs noted above to compound the entry barriers associated with local loop deployment. When the incumbent LECs installed most of their loop plant, they had exclusive franchises and, as such, the record shows that they secured rights-of-way at preferential terms and at minimal costs.[719] By contrast, our record shows that new entrants have no such advantage.[720] Even if a competitive LEC obtains speedy resolution of rights-of-way issues, it may still experience delays involved with constructing new loop plant. Incumbent LECs, of course, experience no such delays when providing narrowband or broadband services over their legacy copper loops.

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[715] NuVox Comments at 74-75; AT&T Reply at 154 (citing AT&T Willig Reply Decl. at paras. 21-22, 26, 39); *see also* Covad Reply at 16 (arguing that there are no "uncommitted entrants" because of the extremely high sunk costs in constructing loop plant).

[716] The record reflects that mass market customers typically purchase services offered over voice-grade loops on a month-to-month basis at relatively low prices. Compared to higher-capacity loops demanded by other customer classes, loops serving the mass market require less complex technology. Nevertheless, replicating a single loop for a mass market customer is prohibitively expensive due to the relatively low revenue per loop as compared to the cost of construction. This factor, coupled with the market's predominant use of short-term customer commitments, equates to a very low profit margin per loop, especially for new entrants. Moreover, loops for mass market customers exhibit substantial economies of scale, in that the larger the number of loops provisioned in a given area, the lower the average cost of provisioning each loop.

[717] As noted earlier in this Order, large sunk costs make it more difficult to ramp up to scale and, therefore, overcome a scale economies problem. *See supra* Part V.B.

[718] AT&T Comments at 127; Covad Reply at 15-18; WorldCom Reply at 14-18 (citing WorldCom Bryant Reply Decl. at paras. 3, 5-14).

[719] *See, e.g.*, Covad Comments at 28 (stating that incumbents often obtained rights-of-way through the use of the states' eminent domain power); AT&T Willig Decl. at paras. 62-63 (arguing that as the first mover, incumbents received rights-of-way from local governments with only minimal transaction costs because the residents in that neighborhood or municipality otherwise would not receive any telecommunications services).

[720] *See* WorldCom Comments at 33 (contending that competitive LECs have been hindered in their ability to install their own loops by "municipal ordinances that have imposed excessive, non-cost based fees on access to rights-of-way and have also delayed such access through unnecessary and cumbersome application procedures and bonding requirements."). Although section 224 of the Act imposes nondiscriminatory access obligations on incumbent LECs with respect to their poles, ducts, conduits, and rights-of-ways, we note that such access does not eliminate the transaction costs or first-mover advantages described above. 47 U.S.C. § 224.

Because these loops are already deployed, they are available immediately for providing narrowband services (*i.e.*, voice, fax, dial-up Internet access) and available after performing any necessary line conditioning for providing broadband service. Furthermore, competitive LECs are also faced with the problem of overcoming the incumbent LECs' established brand name recognition for providing reliable service in order to convince (potentially reluctant) mass market customers to change carriers.

239. According to several commenters, due to the high fixed costs described above, the incumbents LECs designed their networks to minimize the extent to which they must modify their loop plant when adding new customers or services.[721] Accordingly, when incumbent LECs construct loops, they typically add several spare wire pairs to the customer's location because the cost of these spare wires is small in comparison to the cost of adding these pairs at a later date.[722] This design lowers the incumbent LECs' cost of adding customers. Incumbent LECs achieved low average costs because historically they have served 100 percent of demand in any given area. Their investments were recovered, in most cases, through regulated rates and an authorized rate of return.[723] For a new entrant to match or even come close to the incumbent LECs' economies of scale, at a minimum, it would have to capture quickly a significant percentage of the market.[724]

240. We recognize, however, that the deployment of next-generation network facilities and equipment – that is, fiber optic cables and equipment used to provide packet-based services – affects our analysis. Although some of the entry barriers exist for both all-copper and all-fiber loops (*e.g.*, the costs are both fixed and sunk, and such deployment is characterized by scale economies),[725] the revenue opportunities are significantly greater for fiber-based construction. The record indicates that carriers can earn significant returns on their fiber-based investment by providing a suite of services ranging from traditional voice to full-motion video.[726] In fact, the

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[721] *See* AT&T Reply at 149.

[722] *See id*. (stating that "a customer drop may contain six pairs of wires rather than two because the carrying costs of the extra capacity are small compared to the cost of deploying additional capacity later (*e.g.*, to add a second or third line)"); *see also* AT&T Reply at 150 n.101 (explaining the incumbent LECs' use of bridged tap and additional transmission electronics to maximize the use of the existing plant); WorldCom Reply at 15 (citing WorldCom Bryant Reply Decl. at paras. 11-14; AT&T Clarke Decl. at para. 23) (arguing that "once a cable route is established, there are only small incremental structure costs to serving additional customer lines located along the route.").

[723] AT&T Reply at 150 (citing AT&T Reply, Tab C, Declaration of Anthony Fea and Anthony Giovannucci (AT&T Fea/Giovannucci Reply Decl.) at paras. 6-7).

[724] *See, e.g.*, AT&T Reply at 157 (arguing that even with an "aggressive" market share of 30%, the new entrant's loop investments per line costs would exceed the incumbent's by 45 to 87% and its monthly loop costs would exceed the incumbent's by 39 to 65%).

[725] Covad Comments at 27 (arguing that xDSL "signals are no easier or cheaper to replicate than loops carrying POTS"); WorldCom Reply at 15 (citing AT&T Clarke Decl. at para. 23).

[726] Corning Comments at 19-20 (asserting that incumbent and competitive LECs are on equal footing for FTTH deployment). Corning and the FTTH Council estimate that FTTH loops allow revenue opportunities of approximately $33 per subscriber compared to $18 per subscriber for xDSL-based services. Letter from Timothy J. (continued….)

potential rewards of fiber deployment may offset the likelihood that competitive LECs will view entry as uneconomic. In addition, the barriers faced in deploying fiber loops, as opposed to existing copper loops, may be similar for both incumbent LECs and competitive LECs.[727] Both incumbent and competitive LECs must purchase fiber and the associated equipment, negotiate access to the necessary rights-of-way, obtain any necessary government permits, hire skilled labor, and manage their construction projects in order to deploy fiber loops. Moreover, by some estimates, competitive LECs enjoy advantages that incumbent LECs do not have, such as lower labor costs and superior back office systems.[728]

(b) Other Considerations

241. As we have stated elsewhere, broadband deployment is a critical policy objective that is necessary to ensure that consumers are able to fully reap the benefits of the information age.[729] In this regard, we weigh how our rules related to broadband deployment address other policy considerations. In particular, we seek to encourage investment in next-generation network architecture suitable for delivering advanced telecommunications capability throughout the nation. We also look to promote the potential of broadband in a minimally regulated environment in accordance with the deregulatory intent of the 1996 Act. Finally, we seek to unleash the innovation that has been characteristic of the computer and software industries. We expect to develop unbundling rules that serve these broad goals so that consumers ultimately benefit from a ubiquitous, efficient, nationwide broadband deployment.

242. *Section 706*. In determining what our unbundling rules for loops used for broadband services should be, we also are guided by the goals of, and our obligations under, section 706 of the 1996 Act.[730] Section 706 directs the Commission to "encourage the

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Regan, Senior Vice President, Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket 01-338, Attach. at 33 (filed Nov. 26, 2002) (Corning Nov. 26, 2002 FTTH Deployment *Ex Parte* Letter).

[727] *See, e.g.*, Verizon Reply at 40 n.117 (arguing that both incumbents and competitive LECs must incur and recover the costs of obtaining franchises and construction permits, and building out fiber loops). Similarly, as discussed earlier in this Order, incumbent LECs' first-mover advantages would be greatly reduced in greenfield situations. *See supra* Part V.B.

[728] Corning estimates construction accounts for more than 50% of FTTH deployment costs. Letter from Timothy J. Regan, Senior Vice President, Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, Attach. 2 at 9 (filed Nov. 20, 2002) (Corning Nov. 20, 2002 FTTH Deployment *Ex Parte* Letter). Corning further explains that labor is "the largest component" of construction costs, and that competitive LECs enjoy an advantage. *Id.*, Attach. 2 at 10-11. *See CSMG Study* at 14 (noting that competitive LEC FTTH construction costs for labor are lower than those of incumbent LECs); BOC Shelanski Reply Decl. at para. 3; *see also* Verizon Reply at 42.

[729] *See, e.g.*, *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, *Universal Service Obligations of Broadband Providers*, CC Docket Nos. 02-33, 95-20, 98-10, Notice of Proposed Rulemaking, 17 FCC Rcd 3019 (2002) (*Wireline Broadband NPRM*); *Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services*, CC Docket No. 01-337, Notice of Proposed Rulemaking, 16 FCC Rcd 22745, 22747, para. 4 (2001) (*Dom/Non-Dom NPRM*).

[730] 47 U.S.C. § 157 nt.

deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans" by using regulatory measures that "promote competition in the local telecommunications market" and "remove barriers to infrastructure investment."[731] Through its "at a minimum" language, section 251(d)(2) provides the Commission with the discretion to consider factors in addition to impairment before requiring unbundling.[732] We find that this discretion is appropriately exercised by evaluating whether unbundling of local loops used to provide broadband services to the mass market is consistent with our section 706 mandate. In particular, we consider whether our unbundling requirements encourage the deployment of advanced telecommunications capability to all Americans by, among other things, promoting competition in the local market, promoting facilities-based deployment, promoting the delivery of innovative advanced services offerings, and removing barriers to infrastructure investment. In addition, we note that section 706 promotes the deployment of "high-speed, switched, broadband telecommunications capability," which counsels in favor of measures aimed at spurring the deployment of packet-switching technologies.[733]

243. Upgrading telecommunications loop plant is a central and critical component of ensuring that deployment of advanced telecommunications capability to all Americans is done on a reasonable and timely basis and, therefore, where directly implicated, our policies must encourage such modifications. Although a copper loop can support high transmission speeds and bandwidth, it can only do so subject to distance limitations and its broadband capabilities are ultimately limited by its technical characteristics.[734] The replacement of copper loops with fiber will permit far greater and more flexible broadband capabilities.[735] Although both the material used in the transmission path and the attached equipment work together to enable broadband capabilities, the record shows that, of the two, it is the upgrade to the transmission path (the loop) that is, by far, the more costly, complex, and risky endeavor.

244. In establishing our unbundling requirements, we consider our section 706 mandate in light of the technical characteristics of local loops. As we discuss in more detail below, we determine that our obligation to ensure the deployment of advanced telecommunications capability under section 706 warrants different approaches with regard to existing loop plant and new loop plant. With existing copper loops, all investment in advanced

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[731] *Id*.

[732] With regard to the Commission's authority to "consider other elements" under the "at a minimum" language, the Court of Appeals for the D.C. Circuit has stated, "[w]e assume in favor of the Commission that is so." *USTA*, 290 F.3d at 425.

[733] 47 U.S.C. § 157 nt. Section 706 defines "advanced telecommunications capability" as "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology."

[734] *Line Sharing Order*, 14 FCC Rcd at 20919, para. 8 n.9.

[735] BROADBAND: BRINGING HOME THE BITS, *supra* note 707, at 129-30; Corning Comments at 2; Letter from Timothy Regan, Senior Vice President, Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, FTTH Council Attach. at 28 (filed Jan. 29, 2003) (Corning Jan. 29, 2003 *Ex Parte* Letter).

telecommunications capability is necessarily limited to the equipment, not the transmission facility. Therefore, our obligation to encourage infrastructure investment tied to legacy loops is more squarely driven by facilitating competition and promoting innovation. Because the incumbent LEC has already made the most significant infrastructure investment, *i.e.*, deployed the loop to the customer's premises, we seek, through our unbundling rules, to encourage both intramodal and intermodal carriers (in addition to incumbent LECs) to enter the broadband mass market and make infrastructure investments in equipment. In addition, we seek to promote the deployment of equipment that can unleash the full potential of the embedded copper loop plant so that consumers can experience enhanced broadband capabilities before the mass deployment of fiber loops. We expect that more innovative products and services will follow the deployment of new loop plant and associated equipment. With new loop plant, however, encouraging infrastructure investment must be balanced between ensuring that incumbent LECs retain adequate incentives to upgrade their loop plant and ensuring that competition continues to drive the deployment of innovative broadband services. These considerations come into play most acutely in determining the appropriate unbundling requirements for loops used to provide broadband service to the mass market.[736]

245. *Intermodal Competition*. Upon review of the extensive record on intermodal competition compiled in this proceeding, we determine that, although the existence of intermodal loops does not warrant a finding of no impairment, such competition is a factor to consider in establishing our unbundling requirements. We have discussed the competitive characteristics of intermodal loops in preceding paragraphs. Indeed, the broadband competition posed by cable operators in the mass market supports our decision to refrain from unbundling requirements on the features, functions, and capabilities of certain types of loops. Similarly, the state of intermodal competition, including competition from wireless telephony, in the mass market for narrowband services supports our approach to unbundling the legacy loops of incumbent LECs. Neither wireless nor cable has blossomed into a full substitute for wireline telephony. In addition, because wireless does not yet demonstrate the technical characteristics necessary to provide broadband services, unbundling incumbent LEC legacy loops is necessary for mass market consumers to realize the benefits of competition both for narrowband and broadband services, as well as both combined as a bundle.

246. There appear to be a number of promising access technologies on the horizon[737] and we expect intermodal platforms to become increasingly a substitute for wireline voice telephony services and for wireline broadband services. As we continue to assess impairment in the future, we recognize that the increased presence of viable alternative platforms may help increase competitive alternatives, both retail and wholesale, in the narrowband and broadband mass markets. The presence of such alternatives in the future may enable us to find that

[736] We note that one party, Corning, requested that the Commission forbear from imposing on incumbent LECs the resale requirements set forth in section 251(c)(4) for FTTH loops. Corning Comments at 31-33. Obviously, Corning's request is outside the scope of this proceeding and, thus, we will not address it in this Order.

[737] *See, e.g.*, *Third Section 706 Report 2002*, 17 FCC Rcd at 2877-80, paras. 79-88 (describing other potential intermodal platforms capable of providing broadband service).

requesting carriers are no longer impaired in their ability to compete without access to incumbent LEC loops.[738]

(v) Specific Unbundling Requirements for Mass Market Loops

247. In this section, we address the specific unbundling requirements for mass market loops. We address the requirements based on the three primary types of local loops noted above, *i.e.*, copper loops, FTTH loops, and hybrid fiber/copper loops.

(a) Legacy Networks

248. *Stand-Alone Copper Loops.* As discussed above, we find that requesting carriers are generally impaired on a national basis without unbundled access to an incumbent LEC's local loops, whether they seek to provide narrowband or broadband services, or both.[739] However, we determine that unbundled access to conditioned, stand-alone copper loops (which, of course, may be shared between two competitive LECs as discussed below) is sufficient to overcome such impairment for the provision of broadband services. Consequently, we find that, subject to the grandfather provision and transition period explained below, incumbent LECs do not have to unbundle the HFPL for requesting telecommunications carriers.

249. With more than 6 million kilometers of copper cable deployed, it is clear that copper remains the predominant loop type serving the mass market[740] and no party seriously asserts that stand-alone copper loops should not be unbundled in order to provide services to the mass market.[741] To address the impairment discussed above, we conclude that incumbent LECs must provide unbundled access to local loops comprised of copper wire.[742] That is, incumbent LECs shall provide, as a UNE, access to the complete transmission path comprised of a copper local loop between the central office and the customer's premises. The copper loop network element is a single local loop, including all intermediate devices (*e.g.*, repeaters, load coils) used

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[738] We note that the impairment standard set forth in section 251 is different from, and does not prejudge, the standard we use to assess a carrier's dominant or non-dominant status. *See Dom/Non-Dom NPRM*.

[739] *See* our discussion of the high fixed and sunk costs, large economies of scale, and operational barriers such as rights-of-way, *supra* Part VI.A.4.a(iv)(a).

[740] *See Statistics of Communications Common Carriers September 2002 Report* at Table 2.2.

[741] *See, e.g.*, SBC Reply at 109 (stating that competitive LECs have "ample opportunity to offer voice and data over the legacy network" and can "access the copper distribution subloop at the first accessible point in the ILEC's network . . . and use it to provision DSL service."). In addition, we note that some commenters assumed continued unbundling of loops to support their argument that UNE-P is unnecessary. *See, e.g.*, Verizon Reply at 113 (arguing that UNE-P is unnecessary because a competitive LEC could simply "use hot cuts and a UNE-L strategy to serve mass market customers.").

[742] To be clear, we require incumbent LECs to unbundle both existing copper loops and copper loops as they are newly deployed.

to establish the transmission path. Consistent with the definition the Commission adopted in the *UNE Remand Order*, this complete transmission path between the incumbent LEC's main distribution frame (or its equivalent) in its central office and the demarcation point at the customer's premises[743] also includes the features, functions, and capabilities of the copper loop.[744] We include within this network element all local loops comprised of copper cable, including two- and four-wire analog voice-grade loops, digital loops (*e.g.*, DS0s and ISDN lines) and two- and four-wire loops conditioned to transmit the digital signals needed to provide xDSL service. Consistent with their obligation to provide unbundled local loops on just, reasonable, and nondiscriminatory terms and conditions, incumbent LECs must provide the requesting carriers with nondiscriminatory access to the same detailed information about the loop that is available to the incumbent LEC in the same time intervals it is provided to the incumbent LEC's retail operations.[745] We note that our requirements for stand-alone copper loops apply to both copper loops that are in active service and those that are deployed in the network as spares.[746]

250. The practical effect of this unbundling requirement is to ensure that requesting carriers have access to the copper transmission facilities they need in order to provide narrowband or broadband services (or both) to customers served by copper local loops. We understand that this unbundling obligation may require an incumbent LEC to provide the functionality available in certain equipment, as well as to remove the functionality from other equipment (*i.e.*, to condition the loop), in order to provide a complete transmission path between its main distribution frame (or equivalent) and the demarcation point at the customer's premises.[747] As noted elsewhere in this Order, we find that line conditioning constitutes a form

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[743] As discussed below, this also includes any inside wire owned by the incumbent LEC. *See infra* Part VI.B.2 (discussing inside wire).

[744] As noted above, the Act defines the term "network element" as "a facility or equipment used in the provision of a telecommunications service. Such term also includes features, functions, and capabilities that are provided by means of such facility or equipment." 47 U.S.C. § 153(29).

[745] *See supra* Part VI.I (discussing incumbent LECs' OSS obligations); *see also UNE Remand Order*, 14 FCC Rcd at 3884-87, paras. 426-31 (requiring incumbent LECs to provide, among other things, the composition of the loop material; the existence, location and type of any electronic or other equipment on the loop; the loop length; the wire gauge(s) of the loop; and the electrical parameters of the loops); *Line Sharing Order*, 14 FCC Rcd at 20958-73, paras. 96-130; 47 C.F.R. § 51.319(g).

[746] These requirements also include the obligation to condition the spare pair so that the requesting carrier may provide xDSL service. As Qwest points out, when incumbent LECs construct new loop plant, they frequently overlay fiber facilities that supplement existing loops. Qwest Comments at 45; *see* Alcatel Comments at 16 (noting that, when incumbent LECs deploy fiber loops, competitive LECs would continue to maintain access to legacy copper transmission facilities). Thus, the construction of new facilities does not in itself alter a competitive LEC's ability to use the incumbent LEC's network. Qwest explains that it "does not proactively remove copper facilities in the case of an overlay" so that requesting carriers should be able to continue providing service in these circumstances. Qwest Comments at 45-46.

[747] As discussed in Part VI.A. *infra*, we readopt incumbent LECs' line conditioning obligations. The Commission noted in its *Line Sharing Order* that devices such as load coils and bridged taps interfere with the provision of xDSL service and, absent a certain showing by the incumbent LEC to the relevant state commission, must be removed at the request of the competitive LEC. *See Line Sharing Order*, 14 FCC Rcd at 20952-54, paras. 83-86. We (continued….)

of routine network modification that must be performed at the competitive carrier's request to ensure that a copper local loop is suitable for providing xDSL service.[748]

251. *Line Splitting*. We find that when competitive carriers opt to take an unbundled stand-alone loop, the incumbent LEC must provide the requesting carrier with the ability to engage in line splitting arrangements. We use the term "line splitting" to describe the scenario where one competitive LEC provides narrowband voice service over the low frequency of a loop and a second competitive LEC provides xDSL service over the high frequency portion of that same loop. The Commission previously found that existing rules require incumbent LECs to permit competing carriers to engage in line splitting where a competing carrier purchases the whole loop and provides its own splitter to be collocated in the central office.[749] We reaffirm those requirements but, for purposes of clarity and ensuring regulatory certainty, we find that it is appropriate to adopt line splitting-specific rules.

252. Included among these rules is the requirement that incumbent LECs modify their OSS in such a manner as to facilitate line splitting. We also readopt the Commission rules requiring incumbent LECs to provide access to physical loop test access points on a nondiscriminatory basis for the purpose of loop testing, maintenance, and repair activities, and allowing incumbent LECs to maintain control over the loop and splitter equipment and functions in certain circumstances. We do not anticipate that the incumbent LECs will have any difficulty implementing such an obligation because the Commission required as much from them in its *Line Sharing Reconsideration Order*.[750] Furthermore, so long as the unbundled loop-switch

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determine that, upon the competitive LEC's request, incumbent LECs must similarly condition unbundled stand-alone loops to make them xDSL-compatible.

[748] We also require such conditioning for the HFPL consistent with the grandfather provision and transition period described below. *See Line Sharing Order*, 14 FCC Rcd at 20952-54, paras. 83-87.

[749] *See Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in Texas*, CC Docket No. 00-65, Memorandum Opinion and Order, 15 FCC Rcd 18354, 18515-16, paras. 324-25 (2000) (*SWBT Texas 271 Order*); *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Third Report and Order on Reconsideration in CC Docket No. 98-147, Fourth Report and Order on Reconsideration in CC Docket No. 96-98, Third Further Notice of Proposed Rulemaking in CC Docket No. 98-147, Sixth Further Notice of Proposed Rulemaking in CC Docket No. 96-98, 16 FCC Rcd 2101, 2109-14, paras. 16-26 (2001) (*Line Sharing Reconsideration Order*). These orders expressly determined that rules 51.307(c) (requiring incumbent LECs to provide unbundled access to a UNE in a manner that "allows the requesting telecommunications carrier to provide any telecommunications service that can be offered by means of that network element") and 51.309(a) (prohibiting an incumbent LEC from imposing "limitations, restrictions, or requirements on . . . the use of unbundled network elements that would impair the ability of a requesting telecommunications carrier to offer a telecommunications service in the manner" the requesting carrier intends) require incumbent LECs to permit line splitting.

[750] *See Line Sharing Reconsideration Order*, 16 FCC Rcd at 2111, para. 20 (requiring incumbent LECs to make all necessary network modifications, including providing nondiscriminatory access to OSS necessary for pre-ordering, ordering, provisioning, maintenance and repair, and billing for loops used in line splitting arrangements). For the reasons explained herein, we grant WorldCom's request for clarification that requesting carriers may engage in line (continued….)

combination is permitted in a particular state, the rules make clear that incumbent LECs must permit competitive LECs providing voice service through that arrangement to line split with another competitive LEC.[751] As the Commission did before, we encourage incumbent LECs and competitors to use existing state commission collaboratives and change management processes to address OSS modifications that are necessary to support line splitting.[752]

253. *Unbundled Access to Copper Subloops*. We require incumbent LECs to provide unbundled access to their copper subloops, *i.e.*, the distribution plant consisting of the copper transmission facility between a remote terminal and the customer's premises.[753] We conclude that our impairment finding extends to copper subloops because they are part and parcel of the local loop plant of incumbent LECs – requesting carriers face precisely the same barriers to entry for a subloop as with a copper loop that extends from the incumbent LEC's central office to the customer's premises. Indeed, we note that several incumbent LECs argue that accessing copper subloops provides competitive LECs with sufficient access to the loop for the provision of the services that they seek to provide.[754] Consistent with our section 706 goal to spur deployment of advanced telecommunications capability, we do not require incumbent LECs to provide access to their fiber feeder loop plant on an unbundled basis as a subloop UNE. As explained below, in light of our decision to refrain from unbundling the packetized capabilities of incumbent LECs, incumbent LECs will provide access to their fiber feeder plant only to the extent their fiber feeder plant is necessary to provide a complete transmission path between the central office and the customer premises when incumbent LECs provide unbundled access to the TDM-based capabilities of their hybrid loops. We encourage parties to negotiate access arrangements that would facilitate competitive LEC access to copper subloops. Specifically, we expect that incumbent LECs will develop wholesale service offerings for access to their fiber feeder to

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splitting. MCI WorldCom Petition for Clarification, CC Docket No. 96-98 at 10 (filed Feb. 17, 2000) (MCI WorldCom Feb. 17, 2000 Petition for Clarification).

[751] Again, the Commission required this in an earlier order. *See Line Sharing Reconsideration Order*, 16 FCC Rcd at 2110-11, para. 19.

[752] *See id.* at 2111-12, para. 21. We note with support the work already performed by state commissions in this area and we encourage states to continue overseeing and participating in such collaboratives. *See, e.g.*, New York Department Comments at 6-7. Some commenters claimed that BOCs reject competitive LEC xDSL orders because the BOCs are not the local voice provider and they refuse to coordinate the HFPL order with the voice competitive LEC. *See, e.g.*, WorldCom Comments, Declaration of Ian Graham (WorldCom Graham Decl.) at para. 33. We do expect incumbent LECs to implement, in a timely fashion, "practical and reasonable measures" to enable competitive LECs to line split. *Id.*

[753] Letter from Derek R. Khlopin, High Tech Broadband Coalition, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, Attach. at 2 (filed Feb. 14, 2003) (HTBC Feb. 14, 2003 *Ex Parte* Letter) (submitting proposed rule language).

[754] Qwest Comments at 46; SBC Comments at 53-54; Verizon Comments at 89 n.296.

ensure that competitive LECs have access to copper subloops. Of course, the terms and conditions of such access would be subject to sections 201 and 202 of the Act.[755]

254. We define the copper subloop UNE as the distribution portion of the copper loop that is technically feasible to access at terminals in the incumbent LEC's outside plant (*i.e.*, outside its central offices), including inside wire.[756] We find that any point on the loop where technicians can access the cable without removing a splice case constitutes an accessible terminal. As HTBC points out, a non-exhaustive list of these points includes the pole or pedestal, the serving area interface (SAI), the NID itself, the MPOE, the remote terminal, and the feeder/distribution interface. To facilitate competitive LEC access to the copper subloop UNE, we require incumbent LECs to provide, upon a site-specific request, access to the copper subloop at a splice near their remote terminals.[757] With respect to the copper subloop, in addition to providing greater specificity of access points consistent with the HTBC proposal, we readopt our previous requirements for providing unbundled access to subloop UNEs. Unlike our previous subloop unbundling rules, however, the rules we adopt herein do not require incumbent LECs to provide unbundled access to their feeder loop plant as stand-alone UNEs, thereby limiting incumbent LEC subloop unbundling obligations to their distribution loop plant.

255. *High Frequency Portion of the Loop*. Although we make the whole copper loop and the copper subloop available to requesting carriers as UNEs, along with the ability to engage in line splitting, some parties have requested that we also make available the high frequency portion of the copper loop. For reasons we discuss below, we decline to do so except as specified on a grandfathered basis. As an initial matter, we use the term "line sharing" to describe when a competing carrier provides xDSL service over the same line that the incumbent LEC uses to provide voice service to a particular end user, with the incumbent LEC using the low frequency portion of the loop and the competing carrier using the HFPL. Continued access to the incumbent LEC's conditioned, stand-alone copper loops and subloops enables a requesting carrier to offer and recover its costs from all of the services that the loop supports, including xDSL service.[758] Commenters have not argued that it is technically infeasible to provide xDSL

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[755] For example, incumbent LECs could develop, and provide pursuant to sections 201/202 of the Act, telecommunications services that are similar to the special access services they already provide. Such services would, in effect, offer competitive LECs access to the shared fiber feeder plant (and any necessary cross-connections or similar functions) in order to obtain access to equipment in a remote terminal or to the copper subloop itself. We note that at least one incumbent LEC has supported making available wholesale broadband service offerings because such arrangements would make commercial sense. *See, e.g.*, Verizon Comments at 82 (arguing that incumbent LECs should be permitted to offer wholesale broadband services in lieu of unbundling its broadband network equipment and facilities). *But see* WorldCom Reply at 120-21 (criticizing Verizon's proposal).

[756] HTBC Feb. 14, 2003 *Ex Parte* Letter at 2 (submitting proposed rule language).

[757] *Id.*

[758] Moreover, as explained above, the Commission reaffirms the incumbent LECs' obligation to permit line splitting so that a competitive LEC seeking only to offer xDSL service (*i.e.*, a data LEC) may partner with a voice-only competitive LEC to provide the service – xDSL – that the data LEC offered under the Commission's now-vacated rules.

service over a stand-alone copper loop nor have they argued that it is technically infeasible to provide xDSL service over a line split loop (*i.e.*, a loop that is shared by two competitive LECs – one offering voice service and the second offering xDSL service). Advocates for reinstating unbundled access to the HFPL instead offer various economic and operational reasons for why they would be impaired without such access, generally reiterating the same reasons that were offered in the Commission's original line sharing proceeding in 1999.[759]

256. As we noted above, the D.C. Circuit vacated these rules and directed the Commission to apply some limiting standard rationally related to the goals of the Act.[760] The D.C. Circuit stated that the Commission must weigh the costs associated with unbundling in making its section 251(d)(2) determinations.[761] More generally, the D.C. Circuit explained that the Commission must make an effort to balance these costs against the benefits of unbundling.[762] It is against this backdrop that the Commission makes its decision on line sharing.

257. In its *Line Sharing Order*, the Commission found that competitive LECs were impaired without unbundled access to the HFPL because, among other things, purchasing a stand-alone loop would be too costly for carriers seeking to offer only broadband service.[763] It also determined that requiring these carriers to offer voice service in order to provide xDSL service would impose on them the cost of providing circuit-switched voice services, which includes the development of marketing, billing, and customer care infrastructure to serve the needs of voice customers.[764] In addition, the Commission found no evidence that requesting carriers could obtain the HFPL from another competitive LEC (*i.e.*, what the Commission subsequently termed "line splitting").[765]

258. As an initial matter, we disagree with the Commission's prior finding that competitive LECs are impaired without unbundled access to the HPFL because purchasing a stand-alone loop would be too costly for carriers seeking to offer a broadband service. Whereas in the *Line Sharing Order*, the focus was only on the revenues derived from an individual service, our focus is on the all potential revenues derived from using the full functionality of the loop. As stated above, the impairment standard we adopt today considers whether *all* potential revenues from entering a market exceed the costs of entry, taking into account consideration of

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[759] *Line Sharing Order*, 14 FCC Rcd at 20931-38, paras. 38-53.

[760] *USTA*, 290 F.3d at 429 (citing *Iowa Utils. Bd.*, 525 U.S. at 386-88). The D.C. Circuit also cautioned the Commission against imposing the costs of unbundling if doing so would not bring on a significant enhancement of competition. *Id.*

[761] *Id*. at 429.

[762] *Id*. at 427, 429.

[763] *Line Sharing Order*, 14 FCC Rcd at 20932-35, paras. 39-43.

[764] *Id*. at 20936, para. 48.

[765] *Id*. at 20938, para. 53.

any advantages a new entrant may have.[766] Thus, in the instant case, we take into the account the fact that there are a number of services that can be provided over the stand-alone loop, including voice, voice over xDSL (i.e., VoDSL), data, and video services. In so doing, we conclude that the increased operational and economic costs of a stand-alone loop (including costs associated with the development of marketing, billing, and customer care infrastructure) are offset by the increased revenue opportunities afforded by the whole loop.

259. Moreover, we can no longer find that competitive LECs are unable to obtain the HFPL from other competitive LECs through line splitting. For example, the largest non-incumbent LEC provider of xDSL service, Covad, recently announced plans to offer ADSL service to "more of AT&T's 50 million consumer customers" through line splitting.[767] In addition, in the 1999 *Line Sharing Order*, the Commission relied on the marketplace conditions present at the time to justify, at least partially, its decision to unbundle the HFPL. Specifically, the Commission noted the nascency of local competition and the lack of viable alternatives for a provider of broadband services.[768] Although we recognize that these circumstances have not been completely reversed, significant strides have been made by competitors in the local market. Competitors now serve more than three times the number of voice customers that were served in 1999.[769] Moreover, the conditions for further competitive entry are much better established as evidenced by the Commission's approval of 43 section 271 applications, which requires the Commission to find that the local telephone market is open to competition in a particular state, since 1999.[770] Since some incumbent LECs have thus far refused to provide xDSL service to customers that obtain voice service from a competitive LEC, by necessity, any of the over 11 million voice customers served by competitive LECs who seek xDSL service would have to obtain that service from a competing carrier.[771]

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[766] *See supra* para. 84.

[767] *See* Covad Communications, *AT&T and Covad Extend Residential DSL Relationship*, Press Release (dated Jan. 6, 2003) <http://www.covad.com/companyinfo/pressroom/pr_2003/010603_press.shtml> (stating that this agreement will enable more of AT&T's 50 million consumer customers to obtain xDSL service through Covad's network, which itself covers more than 40 million households and businesses nationwide). We thus do not find credible Covad's argument that the Commission's previous finding, that there are no third-party alternatives to the incumbent LEC's HFPL, remains valid. *See* Covad Comments at 42.

[768] *See, e.g.*, *Line Sharing Order*, 14 FCC Rcd at 20938, 20939-40, paras. 53, 56.

[769] *See Local Telephone Competition December 2002 Report* at Table 2 (comparing 3.4 million mass market customers in December 1999 with over 11 million mass market customers in June 2002). We also note that several voice providers, AT&T and WorldCom, subsequently purchased the assets of two former data LECs: NorthPoint and Rhythms NetConnections, respectively. *See, e.g.*, WorldCom Reply, Reply Declaration of Ian Graham (WorldCom Graham Reply Decl.) at para. 1.

[770] We note that in 1999, only one state, New York, had been granted section 271 authority. Since then, the Commission has approved section 271 applications in 42 other states (including the District of Columbia).

[771] *See Local Telephone Competition December 2002 Report* at Table 2. As noted by WorldCom, the need for line splitting is likely to grow as penetration by competitive voice providers increases. WorldCom Comments at 104.

260. We find that allowing competitive LECs unbundled access to the whole loop and to line splitting but not requiring the HFPL to be separately unbundled creates better competitive incentives than the alternatives. This is largely due to the difficulties in pricing the HFPL as a separate element. As we explained in the *Line Sharing Order*, the same physical loop is used for multiple services, and there is no single correct method for allocating loop costs among these services and the HFPL.[772] Pricing the HFPL thus creates a dilemma: either incumbent LECs are allowed to over-recover their loop costs by fully charging for both the HFPL and the low frequency portion of the loop, or competitive LECs are allowed to purchase the HFPL at a price of roughly zero.[773] Following our pricing rules, most states did the latter.[774] The result is that competitive LECs purchasing only the HFPL have an irrational cost advantage over competitive LECs purchasing the whole loop and over the incumbent LECs. In contrast, allowing competitive LECs unbundled access to the whole loop and to line splitting but not requiring the HFPL to be separately unbundled puts competitive LECs using only the HFPL in a more fair competitive position with respect to other competitive LECs and to the incumbent LECs. Each carrier faces the same loop costs and, it if wishes, each can partner with another carrier to provide service over the HFPL alone or the low frequency portion of the loop alone as it wishes.

261. We expressly reject the Commission's earlier finding that "line sharing will level the competitive playing field . . . ."[775] In fact, rules requiring line sharing may skew competitive LECs' incentives toward providing a broadband-only service to mass market consumers, rather than a voice-only service or, perhaps more importantly, a bundled voice and xDSL service offering. In addition, readopting our line sharing rules on a permanent basis would likely discourage innovative arrangements between voice and data competitive LECs and greater product differentiation between the incumbent LECs' and the competitive LECs' offerings. We find that such results would run counter to the statute's express goal of encouraging competition and innovation in all telecommunications markets.

262. Furthermore, in vacating the Commission's line sharing rules, the D.C. Circuit found that the Commission failed to consider the relevance of broadband competition coming from cable and, to a lesser extent, satellite providers.[776] The Commission staff's *High Speed Services December 2002 Report* shows that, nationally, cable modem service is the most widely

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[772] *Line Sharing Order*, 14 FCC Rcd at 20975, para. 138; *see also Intercarrier Compensation NPRM*, 16 FCC Rcd at 9625, para. 39 (describing generally the difficulties associated with allocating common costs among services).

[773] *Line Sharing Order*, 14 FCC Rcd at 20975, para. 137.

[774] *See, e.g.,* Covad Dec. 27, 2002 *Ex Parte* Letter at 6 (noting that 73% of the states in which Covad does business have approved a zero rate for the HFPL). *See also CALLS Order*, 15 FCC Rcd at 13001, para. 98 (stating that, as of 2000, the Commission was unaware of any incumbent LEC allocating any loop costs to ADSL service).

[775] *Line Sharing Order*, 14 FCC Rcd at 20930-31, para. 35.

[776] *USTA*, 290 F.3d at 428.

used means by which the mass market obtains broadband service.[777] Indeed, two reports show that the gap between cable modem and ADSL subscribership continues to widen.[778]

263. As discussed earlier, the Commission also has acknowledged the important broadband potential of other platforms and technologies, such as third generation wireless, satellite, and power lines.[779] Although cable modem's lead in broadband deployment is not dispositive in our impairment analysis,[780] the fact that broadband service is actually available through another network platform and may potentially be available through additional platforms helps alleviate any concern that competition in the broadband market may be heavily dependent upon unbundled access to the HFPL. Indeed, as noted by Allegiance, the existence of some measure of intermodal alternatives in the residential market lessens the benefits of unbundling.[781] Given that the whole loop is available, on an unbundled basis, we find that the costs of unbundling the HFPL outweigh the benefits when taking into account the skewed entry incentives discussed above. Moreover, we anticipate that the Commission's decisions in this Order and other proceedings will encourage the deployment of new technologies providing the mass market with even more broadband options.[782]

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[777] *See High Speed Services December 2002 Report* at Table 5 (noting that cable modem service is provided over nine million lines, which is approximately 57% of all high-speed lines).

[778] *Compare* Industry Analysis and Technology Division, Wireline Competition Bureau, *High Speed Services July 2002 Report* at Table 5 (noting that the difference in number of high-speed lines served by cable modem service and ADSL service was 3.11 million as of December 2001) *with High Speed Services December 2002 Report* at Table 5 (noting that the difference in number of high-speed lines served by cable modem service and ADSL service was 4.07 million as of June 2002).

[779] *See, e.g.*, *Third Section 706 Report 2002*, 17 FCC Rcd at 2877-81, paras. 79-88.

[780] *See supra* Part V.B. (discussing intermodal alternatives in the general impairment Part of this Order).

[781] *See* Letter from Thomas Jones, Counsel for Allegiance, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Feb. 13, 2003) (Allegiance Feb. 13, 2003 *Ex Parte* Letter).

[782] Chairman Powell claims that our decision on line sharing contains some compromises, which, he contends, are improper. *Chairman Powell Statement* at 15-16. There is nothing improper about our decision. The Commission is composed of five people, each of whom sometimes has a different view of the right answer. When that occurs, it is essential to work together to find common ground, or else the agency cannot function. Compromise is inherently part of that process, and "good public policy often must be[] a balanced compromise of conflicting values and judgments." Separate Statement of Commissioner Michael K. Powell, *Review of the Commission's Regulations Governing Attribution of Broadcast and Cable/MDS Interests*, Report and Order, 14 FCC Rcd 12559, 12669 (1999); *see also* Separate Statement of Commissioner Michael K. Powell, *1998 Biennial Regulatory Review Spectrum Aggregation Limits for Wireless Telecommunications Carriers*, Report and Order, 15 FCC Rcd. 9219, 9296-97 (1999) ("Well, this time we are not doing much to modify or eliminate the rule and I do not agree with all of the findings and competitive analysis in the item. . . . Most importantly, in the spirit of compromise, the item recognizes three things that I find somewhat comforting in my decision today to support the item."). In fact, "compromise . . . is within the Commission's purview," *Interstate Natural Gas Ass'n v. FERC*, 285 F.3d 18, 36 (D.C. Cir. 2002), so long as an "agency articulate[s] a satisfactory explanation for its action including a rational connection between the facts found and the choice made." *Ass'n of American Railroads v. Surface Transp. Bd.*, 161 F.3d 58, 66 (D.C. Cir. 1998) (quoting *Michigan Consol. Gas Co. v. FERC*, 883 F.2d 117, 120-21 (D.C. Cir. 1989)) (continued….)

264. *Line Sharing Transition.* We recognize that a number of competitive LECs have relied on the existence of line sharing to provide broadband service to end users since the adoption of the *Line Sharing Order.* These carriers have built internal systems to order the HFPL from incumbent LECs and have designed products that depend on line sharing as an input. In order to ensure that these carriers have adequate time to implement new internal processes and procedures, design new product offerings, and negotiate new arrangements with incumbent LECs to replace line sharing, we adopt a three-year transition period for new line sharing arrangements of requesting carriers.[783] In addition, until the next biennial review, a proceeding that will commence in 2004, we grandfather all existing line sharing arrangements unless the respective competitive LEC, or its successor or assign, discontinues providing xDSL service to

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(quotation marks omitted). Here, we have offered a detailed justification of our actions. Specifically, as discussed, the Commission's previous decision to require line sharing was unequivocally vacated by the D.C. Circuit; the Commission's earlier assessment of costs and revenues from the local loop failed to consider all potential revenues; competitive LECs are now able to obtain the HFPL from other competitive LECs through line splitting; the Commission's previous line sharing rule created warped incentives, because there is no single correct method for allocating the costs attributable to the HFPL; and cable television providers, who are not subject to line sharing obligations, serve a majority of the current residential broadband customers, while incumbent LECs have only a fraction of this market share.

[783] In response to the transition mechanism for line sharing voted on February 20th, the dissent raised some concerns regarding aspects of the transition for existing customers that had not been previously discussed. Separate Statement of Commissioner Kathleen Q. Abernathy, *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, CC Docket Nos. 01-338, 96-98, 98-147, FCC 03-36 (rel. Feb. 20, 2003) ("I am also troubled by the majority's decision to establish a three-year transition period for the elimination of line sharing. I believe that the majority should own up to the fact that, by cutting off data LECs' access to line sharing, it has shut down residential broadband competition over the copper loop. Any talk of a glide path is fanciful, because, in all likelihood, there will regrettably be no providers left to participate in a transition three years from now."); Separate Statement of Chairman Michael K. Powell, *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, CC Docket Nos. 01-338, 96-98, 98-147, FCC 03-36 (rel. Feb. 20, 2003) ("By some estimates, 40% of DSL providers use line shared inputs. The decision to kill off this element and replace it with a transition of higher wholesale prices will lead quite quickly to higher retail prices for broadband consumers . . ."). As the Commission has concluded in other contexts, "some of those concerns were well thought out and prompted the majority to rethink its position and further explain its rationale. Those steps improved this Order --and in turn resulted in a higher quality product for the American people. At the end of the day that should be the goal of all the Commissioners." Joint Statement of Chairman Michael Powell and Commissioner Kathleen Q. Abernathy, *Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range*, ET Docket No. 98-206, RM-9147, RM-9245, Memorandum Opinion and Order and Second Report and Order, 17 FCC Rcd 9614, 9807 (2002) (*Joint Statement of Chairman Powell and Commissioner Abernathy on Northpoint*). Those concerns prompted the majority to address the status of existing customers and further explain its rationale. The interim grandfathering rule we adopted improved this Order, responds to the dissenters' call for the need to strengthen the glide path we set forth on February 20th, and further ameliorates the immediate impact of our decision on retail prices for broadband consumers. In addition, immediate change of existing service may be unnecessary in light of frequent broadband customer churn and our effort to reevaluate the extent that grandfathered customers remain prior to the end of the three-year transition in the context of our next biennial review. While ideally we would engage in the dialogue at an earlier stage, "continuous improvement of our items is the right thing to do." *See id*; *see also infra* note 1396.

that particular end-user customer. During this interim period, we direct incumbent LECs to charge competitive LECs the same price for access to the HFPL for those grandfathered customers that they charged prior to the effective date of this Order. Consistent with our stated policy goal of preventing harm to consumers caused by a discontinuance of service, we conclude that establishing a grandfathering rule is necessary to prevent consumers who currently rely on line sharing from losing their broadband service.[784] This interim grandfathering rule will help alleviate the impact of such a significant rule change on end-user customers.[785] Consistent with our findings set forth above in Part V.E, if a decision taken pursuant to state law after this Order becomes effective were to require line sharing obligations, any party that believes such decision is inconsistent with the limits of section 251(d)(3)(B) and (C) may seek a declaratory ruling from this Commission.[786]

265. The three-year transition period for new line sharing arrangements will work as follows. During the first year, which begins on the effective date of this Order, competitive LECs may continue to obtain new line sharing customers through the use of the HFPL at 25 percent of the state-approved recurring rates or the agreed-upon recurring rates in existing interconnection agreements for stand-alone copper loops for that particular location.[787] During the second year, the recurring charge for such access for those customers will increase to 50

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[784] *See e.spire Application to Discontinue Domestic and International Telecommunications Services*, Order, Comp. File No. 592, 17 FCC Rcd 14785, para. 1 (WCB 2002) (denying application to discontinue telecommunications service because such action would disrupt service to consumers); *Rhythms Link Inc. Section 63.71 Application to Discontinue Domestic Telecommunications Services*, Order, NSD File No. W-P-D-517, 16 FCC Rcd 17024, 17025, paras. 4, 13 (CCB 2001) (granting application to discontinue telecommunications service after determining that Rhythms gave proper notice to its customers, which resulted in most affected customers being migrated to other carriers without a service interruption).

[785] We note that both Qwest and Verizon suggested some form of grandfathering line sharing customers. For example, Qwest proposed grandfathering existing locations for line sharing. Qwest Comments at 44-45. Although Qwest's proposal was premised on the D.C. Circuit upholding the Commission's line sharing rules, we find that a modification of this proposal to address current marketplace conditions is appropriate. *Id.* at 45 n.115. Namely, instead of permitting competitive LECs to continue obtaining unbundled access to the HFPL at all current locations, which presumably would allow requesting carriers to add new subscribers served out of those locations, we limit this proposal to existing customers only. Even after issuance of the *USTA* decision, Verizon suggested grandfathering existing competitive LEC xDSL customers served over line shared loops. *See* Letter from William P. Barr, Verizon, to Michael Powell, Chairman, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 5 (filed Jan. 17, 2003) (Verizon Jan. 17, 2003 *Ex Parte* Letter) (noting that "[a]s a purely transitional measure . . . existing [line sharing] customers could be grandfathered for some period of time."). As a practical matter, because of the churn rates associated with this industry, we find that our grandfathering requirement described above is not without end.

[786] *See supra* Part V.E for our discussion of the role of the states.

[787] We determine that it is appropriate to permit requesting carriers to continue obtaining new customers during the first year of the transition. This augmented customer base will enable requesting carriers, especially data LECs, to continue their day-to-day operations while modifying their business plans and working to preserve access arrangements with incumbent LECs. *See* Letter From Jason D. Oxman, Vice President and Assistant General Counsel, Covad, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (Covad Feb. 24, 2003 *Ex Parte* Letter).

percent of the state-approved recurring rate or the agreed-upon recurring rate in existing interconnection agreements for a stand-alone copper loop for that particular location. Finally, in the last year of the transition period, the competitive LECs' recurring charge for access to the HFPL for those customers obtained during the first year after release of this Order will increase to 75 percent of the state-approved recurring rate or the agreed-upon recurring rate for a stand-alone loop for that location.[788] After the transition period, any new customer must be served through a line splitting arrangement, through use of the stand-alone copper loop, or through an arrangement that a competitive LEC has negotiated with the incumbent LEC to replace line sharing.[789] We strongly encourage the parties to commence negotiations as soon as possible so that a long-term arrangement is reached and reliance on the shorter-term default mechanism that we describe above is unnecessary.

266. The purpose of this transition is to minimize disruption to the customers that obtain xDSL service through line shared loops and to provide a reasonable glide path to competitive LECs currently availing themselves of this UNE. The Commission has established transition periods of this length in the past. For example, in establishing a three-year interim intercarrier compensation regime for ISP-bound traffic, the Commission stated that it would be "prudent to avoid a 'flash cut' to a new compensation regime that would upset the legitimate business expectations of carriers and their customers."[790] We find that a similar approach is required here. It is entirely appropriate to fashion a transition period of sufficient length to enable competitive LECs to move their customers to alternative arrangements and modify their business practices and operations going forward.[791]

267. As one commenter noted in describing the Commission's authority to establish interim rates for unbundled local circuit switching, in combination with other elements, inherent in the Commission's authority to establish transitional rules is its authority to establish transitional rates.[792] Section 201(b) gives the Commission broad authority to adopt the transition mechanism set forth in this Part and nothing in that provision limits our authority with respect to

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[788] After this third year, competitive LECs will not have unbundled access to the HFPL, pursuant to section 251(c)(3), to provide those customers obtained after the Order became effective xDSL service over line shared loops. That is, after this third year, the recurring charge for the HFPL increases to 100% of the recurring charge for a stand-alone loop.

[789] By new customers, we mean any customer obtained during the three-year transition period or after the three-year transition period. New customers do not include, however, those line sharing customers who have been grandfathered, as described above in para. 264.

[790] *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Intercarrier Compensation for ISP-Bound Traffic*, CC Docket Nos. 96-98, 99-68, Order on Remand and Report and Order, 16 FCC Rcd 9151, 9186-87, paras. 77-78 (2001) (*ISP Remand Order*).

[791] *See, e.g.*, Letter from Susan Guyer and Michael Glover, Verizon, to William F. Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 4 (filed Jan. 10, 2003).

[792] *See* Letter from Gary L. Phillips, Counsel for SBC, to Michael K. Powell, Chairman, FCC, CC Docket No. 01-338 at 2 (filed Dec. 19, 2002) (SBC Dec. 19, 2002 *Ex Parte* Letter) (citing the Commission's *ISP Remand Order*).

rates. Indeed, we agree with those commenters that contend that a transitional rate is often the most effective means by which to implement a "glide path from one regulatory/pricing regime to another."[793] The incremental approach we adopt here will encourage requesting carriers either to migrate their customers to the whole loop in an orderly manner or to reach agreement, if it is desired, with the incumbent LEC to continue access to the HFPL on different terms and conditions.

268. In order to implement the line sharing transition plan described above, we find that it is necessary to reinstate certain rules concerning the HFPL.[794] Specifically, we define the HFPL as the frequency range above the voiceband on a copper loop facility that is being used to carry analog circuit-switched voiceband transmissions.[795] The features, functions, and capabilities of the HFPL network element are those that establish a complete transmission path on the frequency range above the one used to carry analog circuit-switched voice transmissions between the incumbent LEC's distribution frame (or its equivalent) in its central office and the demarcation point at the customer's premises, and includes any inside wire owned by the incumbent LEC. Incumbent LECs must condition loops to enable requesting carriers to access the HFPL.[796] Finally, incumbent LECs must provide physical loop test access points on a nondiscriminatory basis for the purposes of loop testing, maintenance, and repair activities.[797]

269. In addition, incumbent LECs are only required to provide access to the HFPL if the incumbent LEC is providing, and continues to provide, analog circuit-switched voiceband services on the particular loop over which the requesting carriers seeks access to provide ADSL service.[798] In the event that the customer ceases purchasing voice service from the incumbent

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[793] *Id.*

[794] To be clear, although the D.C. Circuit referred broadly to vacating the *Line Sharing Order*, it did not address the Commission's spectrum management rules or that portion of the order in its decision. Consequently, the Commission finds that these rules were unaffected by the *USTA* decision and therefore do not need to be readopted because they remain in effect. *See, e.g.*, 47 C.F.R. §§ 51.230-.233. Finally, we find no reason to modify these rules in this Order.

[795] 47 C.F.R. § 51.319(h)(1); *Line Sharing Order*, 14 FCC Rcd at 20926-27, para. 26.

[796] *Line Sharing Order*, 14 FCC Rcd at 20952-54, paras. 83-87; 47 C.F.R. § 51.319(h)(5). Included among the incumbent LECs' conditioning requirements that we reinstate is the requirement that, after determining that conditioning a loop will significantly degrade the voiceband service offered by the incumbent LEC on that loop, the incumbent LEC must either locate another loop and migrate its voice service to that loop while providing the requesting carrier with access to the HFPL, or demonstrate to the relevant state commission that the loop cannot be conditioned without significantly degrading the voiceband service and no alternative loop exists to which the customer's voiceband service can be moved to enable line sharing. *See* 47 C.F.R. § 51.319(h)(5)(ii); *see also infra* Part VII.D (discussing modifications to the existing network).

[797] *See Line Sharing Order*, 14 FCC Rcd at 20964-67, paras. 111-18; 47 C.F.R. § 51.319(h)(7).

[798] *Line Sharing Order*, 14 FCC Rcd at 20947, para. 72; 47 C.F.R. § 51.319(h)(3). Finally, we also readopt our finding contained in the *Line Sharing Order* that if an incumbent LEC disconnects a customer's voice service in accordance with applicable law, then the competitive LEC must purchase the entire loop to continue providing that customer with xDSL service. *Line Sharing Order*, 14 FCC Rcd at 20947-48, para. 73.

LEC, either the new voice provider or the xDSL provider, or both, must purchase the full stand-alone loop to continue providing xDSL service. Finally, as the Commission found before, incumbent LECs may also maintain control over the loop and splitter equipment and functions.[799]

270. *Low Frequency Portion of the Loop.* We disagree with CompTel that we should separately unbundle the low frequency portion of the loop, which is the portion of the copper local loop used to transmit voice signals.[800] We conclude that unbundling the low frequency portion of the loop is not necessary to address the impairment faced by requesting carriers because we continue (through our line splitting rules) to permit a narrowband service-only competitive LEC to take full advantage of an unbundled loop's capabilities by partnering with a second competitive LEC that will offer xDSL service.

271. *Retirement of Copper Loops and Copper Subloops*. As we note below in our discussion of FTTH loops, we decline to prohibit incumbent LECs from retiring copper loops or copper subloops that they have replaced with fiber. Instead, we reiterate that our section 251(c)(5) network modification disclosure requirements (with the minor modifications also noted below in that same discussion) apply to the retirement of copper loops and copper subloops.[801] In addition, any state requirements that currently apply to an incumbent LEC's copper loop or copper subloop retirement practices will continue to apply.

(b) Next-Generation Networks

272. Although we require the unbundling of legacy technology used over hybrid loops, we decline to attach unbundling requirements to the next-generation network capabilities of fiber-based local loops, *i.e.*, those loops that make use of fiber optic cables and electronic or optical equipment capable of supporting truly broadband transmission capabilities based on the analysis described earlier in this subsection. We expect that this decision to refrain from unbundling incumbent LEC next-generation networks – which is based on our evaluation of an extensive record developed over more than two years – will stimulate facilities-based deployment in two ways. First, with the certainty that their fiber optic and packet-based networks will remain free of unbundling requirements, incumbent LECs will have the opportunity to expand their deployment of these networks, enter new lines of business, and reap the rewards of delivering broadband services to the mass market. Thus, we conclude that relieving incumbent LECs from unbundling requirements for these networks will promote investment in, and deployment of, next-generation networks. Second, with the knowledge that incumbent LEC next-generation networks will not be available on an unbundled basis, competitive LECs will need to continue to seek innovative network access options to serve end users and to fully compete against incumbent LECs in the mass market. The end result is that

[799] *Id*. at 20949-50, paras. 76-79.

[800] CompTel Comments at 43-45.

[801] *See* 47 U.S.C. § 251(c)(5) (specifying network disclosure requirements); 47 C.F.R. §§ 51.324-.335.

consumers will benefit from this race to build next generation networks and the increased competition in the delivery of broadband services.

(i) FTTH Loops

273. We conclude that requesting carriers are not impaired without access to FTTH loops,[802] although we find that the level of impairment varies to some degree depending on whether such loop is a new loop or a replacement of a pre-existing copper loop.[803] With a limited exception for narrowband services, our conclusion applies to FTTH loops deployed by incumbent LECs in both new construction and overbuild situations. Only in fiber loop overbuild situations where the incumbent LEC elects to retire existing copper loops must the incumbent LEC offer unbundled access to those fiber loops, and in such cases the fiber loops must be unbundled for narrowband services only. Incumbent LECs do not have to offer unbundled access to newly deployed or "greenfield" fiber loops.

274. FTTH loop deployment is still in its infancy. Corning notes, for example, that only 47 communities throughout the nation currently enjoy widespread FTTH deployment.[804] The record demonstrates that mass market FTTH loops are used almost entirely for providing broadband services (or broadband in conjunction with narrowband services) at this time, and that carriers are not deploying such loops to provide narrowband services alone.[805] The record further indicates that FTTH loops display several economic and operational entry barriers in common with copper loops – that is, the costs of FTTH loops are both fixed and sunk, and deployment is expensive.[806] The record also shows, however, that the potential rewards from FTTH deployment are significant. Corning notes, for example, that carriers will be able to earn a substantially greater return on their FTTH investment by offering voice, data, video, and other

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[802] By "FTTH loop," we mean a local loop consisting entirely of fiber optic cable (and the attached electronics), whether lit or dark fiber, that connects a customer's premises with a wire center (*i.e.*, from the demarcation point at the customer's premises to the central office). *See* Corning Nov. 20, 2002 *Ex Parte* Letter at 2 (submitting proposed definition of FTTH loop).

[803] Alcatel Comments at 15-16; Corning Comments at 22-26 (arguing that no impairment exists for FTTH loops); Corning Nov. 26, 2002 *Ex Parte* Letter, Attach. 1 at 17-21, 78-89, Attach. 2 at 7-10; HTBC Comments at 40-41. We therefore disagree with those parties who argue we should require unbundling of FTTH loops. *See* ALTS *et al*. Comments at 82 (contending that the Commission should require incumbent LECs to provide unbundled access to "broadband fiber"); CompTel Comments at 40-42; Covad Comments at 54-58 (arguing that the Commission should unbundle fiber loops).

[804] Letter from Timothy Regan, Senior Vice President, Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket 01-338 at 5 (filed Dec. 20, 2002) (Corning Dec. 20, 2002 FTTH *Ex Parte* Letter).

[805] Deployment of FTTH loop plant enables a carrier to provide both narrowband voice and broadband services – in essence, voice telephony becomes an application provided over an integrated network. *See* Corning Comments at 2 (asserting that FTTH allows carriers to provide narrowband voice service, full motion video, and high speed data transfers simultaneously), 16-18; FTTH Council Comments at 1; HTBC Comments at 6-8, 14-17.

[806] *See* Corning Nov. 20, 2002 *Ex Parte* Letter, Attach. at 7-10 (estimating costs involved with deploying FTTH loops).

services.[807] Thus, we find that the substantial revenue opportunities posed by FTTH deployment help ameliorate many of the entry barriers presented by the costs and scale economies.

275. With respect to new FTTH deployments (*i.e.*, so-called "greenfield" construction projects), we note that the entry barriers appear to be largely the same for both incumbent and competitive LECs – that is, both incumbent and competitive carriers must negotiate rights-of-way, respond to bid requests for new housing developments, obtain fiber optic cabling and other materials, develop deployment plans, and implement construction programs.[808] Indeed, the record indicates that competitive LECs are currently leading the overall deployment of FTTH loops after having constructed some two-thirds or more of the FTTH loops throughout the nation.[809] Competitive LECs' active participation in deploying FTTH loops demonstrates that carriers are not impaired if we refrain from unbundling these loops.[810] Thus, we conclude that incumbent LECs do not have a first-mover advantage that would compound any barriers to entry in this situation. In addition, we conclude that incumbent LECs have no advantages concerning the sunk costs of greenfield FTTH loops – both incumbent LECs and competitive LECs are faced with the same issue in their deployment of such loops. As a result of our analysis, we do not require incumbent LECs to provide unbundled access to new FTTH loops for either narrowband or broadband services.[811]

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[807] Corning Nov. 26, 2002 *Ex Parte* Letter, Attach. at 33. Corning indicates that, through FTTH deployment, carriers could reasonably earn a return of $33 per subscriber, compared to $18 for ADSL deployment and $21 for cable modem service. *Id.*

[808] Some parties contend that competitive LECs actually have a competitive advantage in deploying FTTH loops because their labor costs are generally lower. *See* Corning Comments at 4; Corning Jan. 29, 2003 *Ex Parte* Letter at 19; Corning Nov. 20, 2002 *Ex Parte* Letter, Attach. 2 at 10. In addition, some parties argue that FTTH loop costs are declining because of the cost of the necessary attached electronics is dropping. Corning Comments at 13, n. 33. BellSouth notes that competitive LECs have "a mandatory right to access the rights-of-way of [incumbent LECs] and presumptive rights to access other utility rights-of-way." BellSouth Comments at 68-69.

[809] Corning Comments at 5; HTBC Comments at 42 (asserting that competitive LECs and incumbent LECs are on equal footing for deploying FTTH loops); Corning Reply at 12; Letter from Jeffrey S. Linder, Counsel for Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, Attach 1 at 2 (filed Feb. 6, 2003) (Corning Feb. 6, 2003 *Ex Parte* Letter); Letter from Larry Aiello, President and Chief Executive Officer, Corning Cable Systems, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 3 (filed Feb. 3, 2003) (noting that competitive LECs have deployed 68% of the existing FTTH deployment to date) (Corning Feb. 3, 2003 *Ex Parte* Letter); Letter from Derek R. Khlopin, HTBC, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 4 (filed Jan. 14, 2003) (arguing that competitive LECs are not impaired without access to FTTH loops) (HTBC Jan. 14, 2003 *Ex Parte* Letter); Letter from Timothy J. Regan, Senior Vice President, Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 , Attach. 2 at 7 (filed Jan. 29, 2003) (Corning Jan. 29, 2003 FTTH *Ex Parte* Letter). Corning estimates that competitive LECs have deployed FTTH loops to 44,890 homes, that small incumbent LECs have deployed FTTH loops to 3,600 homes, that the BOCs have deployed FTTH loops to some 400 homes, and that municipalities have deployed FTTH loops to about 18,100 homes. Corning Jan. 29, 2003 FTTH *Ex Parte* Letter, Attach. at 7.

[810] Corning Jan. 29, 2003 FTTH *Ex Parte* Letter at 6-7.

[811] By FTTH loop, we mean a loop consisting entirely of fiber optic cable between the main distribution frame (or its equivalent) and the demarcation point at the customer's premises. We recognize that other "fiber-in-the-loop" (continued….)

276. We recognize that one FTTH deployment scenario, *i.e.*, overbuild deployment in which an incumbent LEC constructs fiber transmission facilities parallel to or in replacement of its existing copper plant, merits slightly different treatment than greenfield FTTH deployments. Although the record indicates that this scenario is largely theoretical, at least today, the evidence suggests that impairment would not exist for two reasons. First, as with greenfield deployments, competitive and incumbent LECs largely face the same obstacles in deploying overbuild FTTH loops, although incumbent LECs still enjoy an established customer base. Both competitive LECs and incumbent LECs must obtain materials, hire the necessary labor force, and construct the fiber transmission facilities. Second, we note that the revenue opportunities associated with deploying any type of FTTH loop are far greater than for services provided over copper loops. Besides providing narrowband services like voice, fax, and dial-up Internet access, competitive LECs could also deploy a wide-array of video and other broadband applications over such FTTH loops.[812] In fact, broadband platforms enabled by the deployment of FTTH loops will likely enable a variety of new services and applications, competing directly with the market-leading cable broadband offerings and the broadband offerings potentially provided by other technological platforms, such as satellite and wireless, thereby weakening the case for unbundling. Thus, the potential rewards for deploying overbuild FTTH loops are distinctly greater than those associated with deploying copper loops and thus present a different balance when weighed against the barriers to entry.

277. We agree with Corning and Verizon, however, that in a FTTH overbuild situation we must ensure continued access to an unbundled transmission path suitable for providing narrowband services to customers served by FTTH loops.[813] The record indicates that deployment of overbuild FTTH loops could act as an additional obstacle to competitive LECs seeking to provide certain services to the mass market. By its nature, an overbuild FTTH deployment enables an incumbent LEC to replace and ultimately deny access to the already-existing copper loops that competitive LECs were using to serve mass market customers. In this regard, incumbent LECs potentially have an entry barrier within their sole control (*i.e.*, the decision to replace pre-existing copper loops with FTTH). In order to ensure continued narrowband access in this situation, incumbent LECs have the option to either (1) keep the

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network architectures exist, such as "fiber to the curb" (FTTC), "fiber to the node" (FTTN), and "fiber to the building" (FTTB). *See* Telcordia, Inc., NOTES ON FIBER-IN-THE-LOOP (FITL), SR-Notes-Series-10, Issue 1 at 5-1 to 6-17 (Jul. 2001). Our definition of FTTH loops excludes such intermediate fiber deployment architectures. For purposes of our unbundling rules, we consider any loop consisting of fiber optic and copper cable to be a hybrid loop.

[812] *See* Corning Comments at 2; HTBC Comments at 15-16 (describing services that can be offered over FTTH loops); *CSMG Study* at 10 (describing key revenue drivers for FTTH loops), 18-24 (comparing revenue opportunities for xDSL-based networks and FTTH networks); Corning Nov. 26, 2002 *Ex Parte* Letter at 28.

[813] Letter from Timothy J. Regan, Senior Vice President, Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 2 (filed Feb. 5, 2003) (Corning Feb. 5, 2003 FTTH Overbuild *Ex Parte* Letter); Verizon Jan. 17, 2003 *Ex Parte* Letter at 7 (asserting that incumbent LECs should only have to provide unbundled access to a 64 kbps transmission path over their fiber transmission facilities).

existing copper loop connected to a particular customer after deploying FTTH;[814] or (2) in situations where the incumbent LEC elects to retire the copper loop, it must provide unbundled access to a 64 kbps transmission path over its FTTH loop.[815] Under the first option, we do not require incumbent LECs to incur relief and rehabilitation costs for that loop unless a competitive LEC requests unbundled access to it and such loop is placed back into service. We conclude that these measures counteract any obstacles competitive LECs face in overbuild FTTH situations much like other provisions of the Act offset certain entry barriers. We note that this is a very limited requirement intended only to ensure continued access to a local loop suitable for providing narrowband services to the mass market in situations where an incumbent LEC has deployed overbuild FTTH and elected to retire the pre-existing copper loops.

278. As noted above, section 706 informs our policymaking as we determine what unbundling rules, if any, should apply to FTTH loops.[816] All parties agree that FTTH loops meet the definition of advanced telecommunications capability,[817] and so we determine that promoting the deployment of FTTH loops is particularly important in light of our section 706 mandate. Simply put, delivering broadband service is impossible without a transmission path to the customer's premises that supports broadband capabilities. While copper loops enable carriers to deliver xDSL-based broadband services, FTTH loops significantly enhance the broadband capabilities a carrier can deliver to consumers. Thus, we determine that, particularly in light of a competitive landscape in which competitive LECs are leading the deployment of FTTH, removing incumbent LEC unbundling obligations on FTTH loops will promote their deployment of the network infrastructure necessary to provide broadband services to the mass market.[818]

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[814] Corning Feb. 5, 2003 FTTH Overbuild *Ex Parte* Letter at 2 (proposing policy recommendations related to overbuild FTTH); Corning Feb. 6, 2003 *Ex Parte* Letter at 5; Letter from Timothy J. Regan, Senior Vice President, Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 2 (filed Feb. 13, 2003) (proposing overbuild FTTH policies) (Corning Feb. 13, 2003 *Ex Parte* Letter); Letter from Leonard G. Ray, Government Relations Committee Chairman, FTTH Council, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 2-3 (filed Feb. 13, 2003).

[815] *See* Letter from Timothy J. Regan, Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, Attach. 3 at 1 (providing key definitions); Verizon Jan. 17, 2003 *Ex Parte* Letter at 7 (asserting that incumbent LECs should only have to provide unbundled access to a 64 kbps transmission path over their fiber transmission facilities). A key part of the HTBC proposal is ensuring that competitive LECs maintain access to "all existing non-packet loop capabilities over hybrid fiber/copper facilities." Letter from Derek. R. Khlopin, HTBC, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, Attach. 1 at 1 (filed Jan. 24, 2003) (HTBC Jan. 24, 2003 Khlopin *Ex Parte* Letter). As an example, HTBC states that "DS-1s provided over TDM facilities would remain subject to a Section 251 impairment analysis." *Id.*

[816] Section 706(a) of the Telecommunications Act of 1996. *See* Corning Comments at 10-11 (arguing that the Commission should consider section 706 in crafting its unbundling framework); HTBC Comments at 43-44.

[817] *See, e.g.*, Corning Comments at 2, 11-13; HTBC Comments at 5.

[818] Corning Comments at 3, 10-14; SBC Reply at 55-60; Letter from Jeffrey S. Linder, Counsel for Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, Attach. at 6 (filed Jan. 31, 2003) (estimating that unbundling relief will increase FTTH deployment by a factor of 6.2).

279. We further agree with Corning that our FTTH policy adopted herein should not adversely affect competitive LECs for several reasons.[819] First, competitive LECs have demonstrated that they can self-deploy FTTH loops and are doing so at this time. Second, competitive LECs can continue to use resale as a means for serving mass market customers after incumbent LECs deploy FTTH loops. Finally, competitive LECs can continue to have unbundled access to existing copper facilities, to the extent such facilities are available.

280. For these reasons, we disagree with AT&T that we should further study issues surrounding the deployment of FTTH loops used to serve the mass market.[820] The record contains sufficient information concerning the current deployment of FTTH loops and the economic barriers surrounding such deployment, as well as a number of studies and projections of future FTTH deployment.[821]

281. *Retirement of Copper Loops*. We decline to impose a blanket prohibition on the ability of incumbent LECs to retire any copper loops or subloops they have replaced with FTTH loops. Several parties also propose extensive rules that would require affirmative regulatory approval prior to the retirement of any copper loop facilities.[822] We find that such a requirement is not necessary at this time because our existing rules, with minor modifications, serve as adequate safeguards.[823] Pursuant to the Act and the Commission's rules, incumbent LECs must provide public notice of any network change that will affect a competing carrier's performance or ability to provide service.[824] Because the retirement of copper loop plant is a network modification that affects the ability of competitive LECs to provide service,[825] we clarify that

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[819] *See* Corning Feb. 6, 2003 *Ex Parte* Letter at 5.

[820] AT&T Reply at 74 (advocating that the Commission study FTTH deployment issues further before determining what unbundling requirements, if any, apply to FTTH loops used to serve the mass market).

[821] *See* Corning Nov. 26, 2002 *Ex Parte* Letter, Attach. at 29-33 (describing revenue opportunities), 42-45 (describing competitive LEC ability to self-deploy FTTH loops); *CSMG Study* at 10-14 (providing overview of study conclusions).

[822] Allegiance Comments at 25; California Commission Comments at 18 (proposing rule requiring incumbent LEC to maintain copper plant); Letter from Timothy J. Regan, Corning, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 9 (filed Nov. 27, 2002) (Corning Nov. 27, 2002 *Ex Parte* Letter) (arguing that incumbent LECs should have the option of retiring or selling copper plant where FTTH is deployed); HTBC Comments at 36-37 (proposing measures regarding incumbent LEC retirement of legacy copper plant); TIA Comments at 17-18 (proposing rule to prohibit incumbent LECs from retiring copper loops unless they allow access to broadband facilities); AT&T Reply at 216-19 (asserting that a home-run copper loop may be of inferior quality).

[823] *See* Verizon Jan. 17, 2003 *Ex Parte* Letter at 7 (arguing that a duty to maintain two networks would impose additional costs).

[824] 47 U.S.C. § 251(c)(5); 47 C.F.R. §§ 51.325-.335. This disclosure requirement applies to the retirement of both feeder plant and distribution plant.

[825] *See, e.g.*, Sprint Comments at 45 (arguing that a competitive LEC could be stranded after an incumbent LEC upgrades its loop plant); Supra Comments at 10-13.

incumbent LECs must provide notice of such retirement in accordance with our rules. Thus, incumbent LECs must disclose among other things the planned date for retiring a copper loop and a description of the reasonably foreseeable impact of the planned changes.[826] Such notifications will ensure that incumbent and competitive carriers can work together to ensure the competitive LECs maintain access to loop facilities.

282. Consistent with the proposals of Corning and HTBC, we modify our network modification rules with respect to the retirement of copper loops.[827] Specifically, when a copper loop is retired and replaced with a FTTH loop, we allow parties to file objections to the incumbent LEC's notice of such retirement. Consistent with our existing network disclosure rules, such oppositions must be filed with the Commission and served on the incumbent LEC within nine business days from the release of the Commission's public notice.[828] Unless the copper retirement scenario suggests that competitors will be denied access to the loop facilities required under our rules, we will deem all such oppositions denied unless the Commission rules otherwise upon the specific facts and circumstances of the case at issue within 90 days of the Commission's public notice of the intended retirement.

283. We note that, with respect to network modifications that involve copper loop retirements, the rules we adopt herein differ in two respects from the notification rules that apply to other types of network modifications.[829] First, we establish a right for parties to object to the incumbent LEC's proposed retirement of its copper loops for both short-term and long-term notifications as outlined in Part 51 of the Commission's rules. By contrast, our disclosure rules for other network modifications permit oppositions only for instances involving short-term notifications.[830] Second, we establish a mechanism to deny such objections automatically unless the Commission rules otherwise within 90 days of the Commission's public notice of the intended retirement. As a practical matter, this mechanism redefines the short-term notice rules for a subset of network modifications, *i.e.*, retirement of copper loops that are replaced by FTTH loops, and means that incumbent LECs must file their disclosures for copper loop retirements at least 91 days prior to their planned retirement date.

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[826] *See* 47 C.F.R. § 51.327.

[827] Corning Feb. 6, 2003 *Ex Parte* Letter at 7 (proposing a 90-day application process before the Commission with respect to the retirement of any copper loops); Letter from Derek R. Khlopin, HTBC, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Jan. 23, 2003) (HTBC Jan. 23, 2003 *Ex Parte* Letter) (stating that HTBC's proposal would prohibit incumbent LECs "from retiring the existing copper loop absent permission from the Commission.").

[828] Objections to both short and long-term notices should be made in accordance with section 51.333(c) of the Commission's rules. Moreover, incumbent LECs may respond to such objections in accordance with section 51.333(d) of the Commission's rules. *See* 47 C.F.R. § 51.333(c)-(d).

[829] These modified network notification requirements apply only to the retirement of copper loops and copper subloops, but not to the retirement of copper feeder plant.

[830] *See* 47 C.F.R. § 51.333(c)-(d).

284. As a final matter, we stress that we are not preempting the ability of any state commission to evaluate an incumbent LEC's retirement of its copper loops to ensure such retirement complies with any applicable state legal or regulatory requirements. We also stress that we are not establishing independent authority based on federal law for states to review incumbent LEC copper loop retirement policies. We understand that many states have their own requirements related to discontinuance of service, and our rules do not override these requirements. We expect that the state review process, working in combination with the Commission's network disclosure rules noted above, will address the concerns noted by Corning and others regarding the potential impact of an incumbent LEC retiring its copper loops.

(ii) Hybrid Loops

285. Hybrid loops represent an important step towards the deployment of a fiber-based network capable of supporting a wide array of advanced telecommunications and other services. Several incumbent LECs note that they pursue their construction and network modification projects in incremental ways – first, deployment of fiber in the feeder plant and associated equipment like DLC systems (often with line cards capable of providing xDSL services), followed by fiber-to-the-curb, followed by FTTH.[831] In light of this practice, we view our task with respect to hybrid loops as determining an unbundling approach that addresses impairment, but also aligns business incentives with the explicit congressional goal of promoting the rapid deployment of advanced services.

286. In making our unbundling determination for hybrid loops, we consider both impairment and, through our section 251(d)(2) "at a minimum" authority, additional factors. As noted above, we find that competitive LECs are impaired on a national basis without unbundled access to a transmission path when seeking to provide service to the mass market. We further find that this impairment at least partially diminishes with the increasing deployment of fiber. In addition, we retain the flexibility to determine the unbundling approach that best addresses the impairment in a manner that advances other goals of the Act. In this regard, balanced against impairment, we evaluate three primary factors to determine the most appropriate unbundling requirements for hybrid loops. First, we consider the costs of unbundling, *i.e.*, whether refraining from unbundling requirements will stimulate facilities-based investment and promote the deployment of advanced telecommunications infrastructure. Second, we consider the effect of alternatives to mandating unbundled access to the hybrid loops of incumbent LECs. In particular, we consider whether unbundled access to subloops, spare copper loops, and the non-packetized portion of incumbent LEC hybrid loops, as well as remote terminal collocation, offer suitable alternatives to an intrusive unbundling approach. Finally, we consider the state of intermodal competition in crafting our unbundling approach. As explained further below, after balancing these three primary factors against our impairment findings, we adopt a national approach that relieves incumbent LECs of unbundling requirements for the next-generation network capabilities of their hybrid loops, while at the same time ensures requesting carriers have access to the transmission facilities they need to serve the mass market.

[831] *See* Verizon Nov. 22, 2002 *Ex Parte* Letter at 1.

287. We discuss our unbundling rules for hybrid loops below. These rules vary depending upon whether a competitive LEC seeks access for the provision of broadband or narrowband services. Therefore, our discussion is separated into two parts in order to clearly reflect this important distinction.

288. *Broadband Services*. We decline to require incumbent LECs to unbundle the next-generation network, packetized capabilities of their hybrid loops to enable requesting carriers to provide broadband services to the mass market.[832] AT&T, WorldCom, Covad, and others urge the Commission to extend our unbundling requirements to the packet-based and fiber optic portions of incumbent LEC hybrid loops. We conclude, however, that applying section 251(c) unbundling obligations to these next-generation network elements would blunt the deployment of advanced telecommunications infrastructure by incumbent LECs and the incentive for competitive LECs to invest in their own facilities, in direct opposition to the express statutory goals authorized in section 706. The rules we adopt herein do not require incumbent LECs to unbundle any transmission path over a fiber transmission facility between the central office and the customer's premises (including fiber feeder plant) that is used to transmit packetized information.[833] Moreover, the rules we adopt herein do not require incumbent LECs to provide unbundled access to any electronics or other equipment used to transmit packetized information over hybrid loops, such as the xDSL-capable line cards installed in DLC systems or equipment used to provide passive optical networking (PON) capabilities to the mass market.[834]

289. Although packetized fiber capabilities will not be available as UNEs, incumbent LECs remain obligated, however, to provide unbundled access to the features, functions, and capabilities of hybrid loops that are not used to transmit packetized information. Thus, as discussed more specifically in the Enterprise Loops section, consistent with the proposals of HTBC, SBC, and others, incumbent LECs must provide unbundled access to a complete transmission path over their TDM networks to address the impairment we find that requesting

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[832] As noted above in our description of the record evidence, incumbent LECs have deployed, and are continuing to deploy, a substantial amount of "hybrid loops," *i.e.*, local loops consisting of both copper and fiber optic cable (and associated electronics, such as DLC systems). Incumbent LECs appear to be at various stages of fiber deployment and have chosen a number of FITL architectures (*e.g.*, FTTC, FTTN) and hybrid loops. Thus, we treat such intermediate deployments of fiber as hybrid loops because they consist of both copper and fiber optic cable.

[833] *See* Letter from Robert Holleyman, HTBC, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Jan. 24, 2003) (HTBC Jan. 24, 2003 *Ex Parte* Letter); Letter from Veronica O'Connell, Director, HTBC, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Feb. 7, 2003) (HTBC Feb. 7, 2003 *Ex Parte* Letter); HTBC Feb. 14, 2003 *Ex Parte* Letter. Because we decline to require unbundling of packet-switching equipment, we deny WorldCom's petitions for reconsideration and clarification requesting that we unbundle packet-switching equipment, DSLAMs, and other equipment used to deliver DSL service. MCI WorldCom Petition for Reconsideration, CC Docket No. 96-98 at 2-18 (filed Feb. 17, 2000) (MCI WorldCom Feb. 17, 2000 Petition for Reconsideration); MCI WorldCom Feb. 17, 2000 Petition for Clarification at 2, 13.

[834] *See* HTBC Feb. 14, 2003 *Ex Parte* Letter at 1-4.

carriers currently face.[835] This requirement ensures that competitive LECs have additional means with which to provide broadband capabilities to end users because competitive LECs can obtain DS1 and DS3 loops, including channelized DS1 or DS3 loops and multiple DS1 or DS3 loops for each customer.

290. Section 706 requires the Commission to encourage deployment of advanced telecommunications capability by using, among other things, "methods that remove barriers to infrastructure investment."[836] Unbundling access to hybrid loops in the manner adopted herein – that is, limiting the requesting carrier's access to the TDM portion of the hybrid loop and precluding unbundled access to the packet-based networks (and associated fiber transmission facilities) of incumbent LECs – promotes our section 706 goals in two ways. First, it limits access to the (in many cases) newly deployed fiber transmission facility, and thereby gives incumbent LECs an incentive to deploy fiber (and associated next-generation network equipment, such as packet switches and DLC systems) and develop new broadband offerings for mass market consumers free of any unbundling requirements.[837] Although incumbent LECs have been deploying fiber feeder plant for some time, such deployment was generally limited to the purpose of increasing network efficiency for the provision of narrowband services rather than enhancing network capabilities to deliver broadband services. In addition, fiber feeder deployment (and the broadband capabilities attendant to such deployment) is far from ubiquitous. Moreover, incumbent LECs have not widely deployed the next-generation networking equipment (*e.g.*, DLC systems with xDSL-capable line cards) needed to deliver broadband services to mass market customers served by hybrid loops.[838] Second, by prohibiting access to the packet-based networks of incumbent LECs, we expect that our rules will stimulate competitive LEC deployment of next-generation networks. Because competitive LECs will not have unbundled access to the packet-based networks of incumbent LECs, they will need to continue to seek innovative access options, including the deployment of their own facilities necessary for providing broadband services to the mass market.

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[835] HTBC Feb. 7, 2003 *Ex Parte* Letter at 2 (advocating a requirement to unbundle "non-packet loop capabilities" only); SBC Jan. 24, 2003 *Ex Parte* Letter at 12-13 (describing proposal to ensure competitive LECs have unbundled access to TDM and non-packet capabilities of SBC's networks); Letter from Jonathan J. Boynton, Associate Director, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 5 (filed Jan. 15, 2003) (SBC Jan. 15, 2003 Broadband *Ex Parte* Letter) (explaining that competitive LECs will have continued unbundled access to "non packet fiber" feeder plant combined with copper distribution plant).

[836] Section 706(a) of the Telecommunications Act of 1996. *See* Corning Comments at 10-11 (arguing that the Commission should consider section 706 in crafting its unbundling framework); CompTel Comments at 26 (arguing that the Commission should use section 706 to expand unbundling obligations); HTBC Comments at 42-45; SBC Reply at 95-96.

[837] *See* Corning Jan. 29, 2003 *Ex Parte* Letter at 12 (estimating that FTTH deployment will reach 31% of U.S. households if no unbundling requirements apply to incumbent LECs, but only 5% of U.S. households if unbundling requirements apply); *CSMG Study* at 26-28, 30 (concluding that incumbent LECs will deploy more FTTH loops if relieved from unbundling obligations).

[838] Indeed, some incumbent LECs contend that the regulatory environment has deterred their deployment of such equipment. *See, e.g.*, SBC Reply at 96-104.

291. In making our unbundling determination, we are also guided by the availability of other loop alternatives within the networks of incumbent LECs. In particular, we determine that unbundled access to incumbent LEC copper subloops adequately addresses the impairment competitive LECs face so that intrusive unbundling requirements on incumbent LEC packetized fiber loops facilities is not necessary. Unbundled access to subloops also better promotes our section 706 goals than unbundling incumbent LEC packetized fiber loops. In particular, subloop access promotes competitive LEC investment in next-generation network equipment (*e.g.*, packet switches, remote DSLAMs, etc.) and transmission facilities (*e.g.*, fiber loop facilities built to points in incumbent LEC networks closer to the home). Furthermore, unbundled subloop access furthers our goal of promoting innovation because it enables competitive LECs to differentiate their product and service offerings from those of the incumbent LEC. In addition to subloop unbundling, as discussed more fully below, we require incumbent LECs to continue providing unbundled access to the TDM-based features, functions, and capabilities of their hybrid loops where impairment exists. As discussed above, in addition to subloop unbundling, the availability of TDM-based loops, such as DS1s and DS3s, provide competitive LECs with a range of options for providing broadband capabilities. We therefore find that competitive LECs retain alternative methods of accessing loop facilities in hybrid loop situations and disagree with WorldCom and others concerning the appropriate unbundling requirements for the next-generation broadband features, functions, and capabilities of hybrid loops.[839]

292. We are also informed in our analysis by the state of intermodal competition for broadband service.[840] As noted above, cable companies have made significant inroads in providing broadband service to the mass market, but these same companies have made less progress in the market for traditional narrowband services. For example, cable companies have widely deployed broadband service in the form of high-speed Internet access offered via cable modem service, but cable telephony deployment is still in its infancy. According to a Commission staff report, more consumers continue to obtain their high speed Internet access by cable modem service than by xDSL, and the rate of growth for cable modem subscribership continues to outpace the rate of growth for xDSL subscribership (*i.e.*, since the period June to December 2001, cable modem subscribership for high speed Internet access increased 55 percent versus an increase of only 35 percent for xDSL-based subscribership).[841] A primary benefit of

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[839] WorldCom Dec. 12, 2002 Next-Generation Networks *Ex Parte* Letter at 3 (arguing that, without unbundled access to hybrid loops, competitive LECs will not be able to serve certain customers).

[840] *See* SBC Reply at 95; Allegiance Feb. 13, 2003 *Ex Parte* Letter at 2 (asserting that the Commission should consider the existence of an intermodal competitor with a leading position in the market).

[841] *High Speed Services December 2002 Report* at Table 2 (noting that cable companies provide 6.8 million lines capable of providing at least 200 kbps in both direction, compared to only 1.8 million xDSL lines). The *High Speed Services December 2002 Report* notes the percentage change of growth. For coaxial cable services providing at least 200 kbps in both directions, cable companies provided 4.394 million lines as of December 2001. This number increased to 6.819 million lines by June 2002. By comparison, wireline carriers provided 1.369 million such lines as of December 2001 and a total of 1.852 million such lines by June 2002. Thus, not only do cable companies provide more high speed lines capable of providing at least 200 kbps in both directions than xDSL-based carriers, but cable companies continue to outpace xDSL-based carriers in terms of the rate of growth of such subscribership. *See id.* at Table 2; *see also id.* at Table 1 (noting that cable companies provide 9.1 million cable modem-based lines (continued….)

unbundling hybrid loops – that is, to spur competitive deployment of broadband services to the mass market – appears to be obviated to some degree by the existence of a broadband service competitor with a leading position in the marketplace.[842] We therefore tailor our unbundling requirements to most effectively address those services that are not yet fully subject to competition (*i.e.*, narrowband services in the mass market) rather than the broadband services that are currently provided in a competitive environment.

293. Several parties have advocated drawing a bright line between "old" and "new" investment in network architectures and using such a division to articulate our unbundling requirements.[843] Others contend that we should make no such distinction.[844] Based on our evaluation of impairment, as informed by the two factors noted above, we determine that drawing such a bright line is practical, if the line is drawn between legacy technology and newer technology. In fact, we conclude that such a line is best drawn based on technological boundaries rather than transmission speeds, bandwidth, or some other factor – the technical characteristics of packet-switched equipment versus TDM-based equipment, for example, are well-known and understood by all members of the industry.

294. We stress that the line drawing in which we engage does not eliminate the existing rights competitive LECs have to obtain unbundled access to hybrid loops capable of providing DS1 and DS3 service to customers.[845] These TDM-based services – which are generally provided to enterprise customers rather than mass market customers – are non-packetized, high-capacity capabilities provided over the circuit switched networks of incumbent LECs. To provide these services, incumbent LECs typically use the features, functions, and capabilities of their networks as deployed to date – *i.e.*, a transmission path provided by means of the TDM form of multiplexing over their digital networks – or certain capabilities of multi-

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compared to 5.1 million ADSL-based lines provided by LECs); *see also* Covad Siwek/Sun Decl. at paras 58-59. As a result, cable companies' leading position in providing broadband services to the mass market appears to be increasing rather than leveling off.

[842] Allegiance Feb. 13, 2003 *Ex Parte* Letter at 2 (asserting that the Commission should consider the existence of an intermodal competitor with a leading position in the market).

[843] *See, e.g.*, Alcatel Comments at 15-17; SBC Reply at 109; Verizon Jan. 10, 2003 *Ex Parte* Letter at 6-7 (proposing a line drawn on voice-grade versus broadband capability); Verizon Nov. 22, 2002 *Ex Parte* Letter at 4.

[844] AT&T Reply at 216-19 (advocating "unified loops" theory and arguing that home-run copper is not sufficient to address impairment); Covad Reply at 46-54; WorldCom Reply at 111-13 (advocating in support of unbundling all the features, functions, and capabilities of loops, including those provided by means of DLC systems and packet-switching equipment); Letter from Jonathan Askin, General Counsel, ALTS, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 5 (filed Feb. 13, 2003) (ALTS Feb. 13, 2003 *Ex Parte* Letter) (arguing that the Commission should not limit access to capacity on any fiber-fed loop plant); Letter from Jonathan Askin, General Counsel, ALTS, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 3 (filed Jan. 31, 2003) (ALTS Jan. 31, 2003 *Ex Parte* Letter) (advocating in support of unbundling requirements on fiber-fed loop plant).

[845] HTBC Feb. 7, 2003 *Ex Parte* Letter at 2; SBC Jan. 24, 2003 *Ex Parte* Letter.

use integrated equipment (*e.g.*, integrated line cards deployed in DLC systems).[846] Incumbent LECs remain obligated to comply with the nondiscrimination requirements of section 251(c)(3) in their provision of loops to requesting carriers, including stand-alone spare copper loops, copper subloops, and the features, functions, and capabilities for TDM-based services over their hybrid loops. In this regard, we prohibit incumbent LECs from engineering the transmission capabilities of their loops in a way that would disrupt or degrade the local loop UNEs (either hybrid loops or stand-alone copper loops) provided to competitive LECs. To ensure competitive LECs receive the transmission path within the parameters we establish, we determine that any incumbent LEC practice, policy, or procedure that has the effect of disrupting or degrading access to the TDM-based features, functions, and capabilities of hybrid loops for serving the customer is prohibited under the section 251(c)(3) duty to provide unbundled access to loops on just, reasonable, and nondiscriminatory terms and conditions.[847]

295. Finally, in balancing potential impairment against our obligations under section 706, we conclude that the costs associated with unbundling these packet-based facilities outweigh the potential benefits. A number of parties have argued that unbundling requirements deter the incentive of incumbent LECs to take risks and deploy fiber-based networks because they would face reduced returns on their investment.[848] We recognize that, particularly in the realm of next-generation network capabilities, unbundling requirements could have the unintended effect of blunting innovation because such an approach would largely lock competitive LECs to the technological choices of the incumbent LECs. We therefore consider the effect of other approaches, such as the subloop access and remote terminal collocation requirements, discussed above, on stimulating the deployment of advanced telecommunications infrastructure. For these reasons, we conclude that it is consistent with our section 706 mandate to promote investment in infrastructure by refraining from unbundling incumbent LECs' next-generation network facilities and equipment.

296. *Narrowband Services*. With respect to providing unbundled access to hybrid loops for a requesting carrier to provide narrowband service,[849] we require incumbent LECs to provide an entire non-packetized transmission path capable of voice-grade service (*i.e.*, a circuit equivalent to a DS0 circuit) between the central office and customer's premises. Pursuant to this requirement, competitive LECs will be able to obtain access to UNE loops comprised of the feeder portion of the incumbent LEC's loop plant, the distribution portion of the loop plant, the

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[846] In their submissions in this proceeding, incumbent LECs demonstrate that they typically segregate transmissions over hybrid loops onto two paths, *i.e.*, a circuit-switched path using TDM technology and a packet-switched path (usually over an ATM network). *See, e.g.*, SBC Jan. 15, 2003 *Ex Parte* Letter at 4 (providing diagram to illustrate that its network architecture consists of a TDM-based portion and a packet-switched portion).

[847] Notwithstanding our prohibition against disrupting or degrading unbundled access to the TDM capabilities of hybrid loops, incumbent LECs may remove copper loops from their plant so long as they comply with our Part 51 network notification requirements, as amended by this Order, and any applicable state law.

[848] *See* Corning Comments at 7-9.

[849] Narrowband services include traditional voice, fax, and dial-up modem applications over voice-grade loops.

attached DLC system, and any other attached electronics used to provide a voice-grade transmission path between the customer's premises and the central office.[850] Consistent with the access requirements for broadband services noted above, we limit the unbundling obligations for narrowband services to the TDM-based features, functions, and capabilities of these hybrid loops. Incumbent LECs may elect, instead, to provide a homerun copper loop rather than a TDM-based narrowband pathway over their hybrid loop facilities if the incumbent LEC has not removed such loop facilities.[851]

297. We recognize that providing unbundled access to hybrid loops served by a particular type of DLC system, *e.g.*, Integrated DLC systems, may require incumbent LECs to implement policies, practices, and procedures different from those used to provide access to loops served by Universal DLC systems.[852] These differences stem from the nature and design of Integrated DLC architecture. Specifically, because the Integrated DLC system is integrated directly into the switches of incumbent LECs (either directly or through another type of network equipment known as a "cross-connect") and because incumbent LEC's typically use concentration as a practice for engineering traffic on their networks, a one-for-one transmission path between an incumbent's central office and the customer premises may not exist at all times. Even still, we require incumbent LECs to provide requesting carriers access to a transmission path over hybrid loops served by Integrated DLC systems.[853] We recognize that in most cases this will be either through a spare copper facility or through the availability of Universal DLC systems.[854] Nonetheless even if neither of these options is available, incumbent LECs must present requesting carriers a technically feasible method of unbundled access.[855]

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[850] As discussed below, we do not require incumbent LECs to maintain or retain copper loops if they have deployed fiber replacements. Incumbent LECs have the option of either providing competitive LECs with unbundled access to a voice-grade channel over a hybrid loop or, to the extent a copper loop exists, the existing copper loop.

[851] As Qwest points out, when incumbent LECs construct new loop plant, they frequently overlay fiber facilities that supplement existing loops. Qwest Comments at 45; Alcatel Comments at 16 (noting that, when incumbent LECs deploy fiber loops, competitive LECs would continue to maintain access to legacy copper transmission facilities). Thus, the construction of new facilities does not in itself alter a competitive LEC's ability to use the incumbent's network. Qwest Comments at 45. Qwest explains that it "does not proactively remove copper facilities in the case of an overlay" so that requesting carriers should be able to continue providing service in these circumstances. Qwest Comments at 45-46.

[852] McLeodUSA Dec. 18, 2002 *Ex Parte* Letter at 10-11; Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2-3 (filed Dec. 4, 2002) (AT&T Dec. 4, 2002 *Ex Parte* Letter) (describing operational issues related to providing unbundled access to loops served by DLC systems using a GR-303 interface, *i.e.*, integrated DLC systems, and proposing some solutions); McLeodUSA Nov. 15, 2002 *Ex Parte* Letter at 1.

[853] *See* SBC Jan. 15, 2003 *Ex Parte* Letter at 3; SBC Jan. 24, 2003 *Ex Parte* Letter, Attach. 2 at 3-4.

[854] *See* Letter from Jim Lamoureux, Senior Counsel, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 1 (filed Dec. 10, 2002) (SBC Dec. 10, 2002 *Ex Parte* Letter) (describing DLC deployment in SBC's region). SBC explains that, for 99.88% of SBC's lines served over Integrated DLC, competitive LECs have access (continued….)

b. Enterprise Market Loops

(i) Record Evidence

298. The record contains a wealth of evidence to inform our enterprise market loop analyses. First, it reflects that competitive LECs have deployed fiber that enables them to reach customers entirely over their own loop facilities.[856] When competitive LECs self-deploy fiber

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to Universal DLC or spare copper facilities as alternatives to the transmission path over SBC's Integrated DLC system. *Id*.

[855] We recognize that it is technically feasible (though not always desirable for either carrier) to provide unbundled access to hybrid loops served by Integrated DLC systems. Incumbent LECs can provide unbundled access to hybrid loops served by integrated DLC systems by configuring existing equipment, adding new equipment, or both. *See* McLeodUSA Dec. 18, 2002 *Ex Parte* Letter 10-11. Qwest explains, for example, that it can provide a UNE loop over Integrated DLC systems by using a "hairpin" option, *i.e.*, configuring a "semi-permanent path" and disabling certain switching functions. *See* Qwest Nov. 13, 2002 *Ex Parte* Letter at 23 (describing "hairpin" solution to providing UNE loop over Integrated DLC system); *see also* Telcordia, Inc., NOTES ON THE NETWORKS, SR-2275, Issue 4, 12.13.2.1 (Oct. 2000) (describing means for incumbent LECs to provide unbundled loops to competitive LECs over integrated DLC systems). In addition, we understand that some Integrated DLC systems can simulate Universal DLC systems. *See* Telcordia, Inc., NOTES ON FIBER-IN-THE-LOOP (FITL), SR-Notes-Series-10, Issue 1, 2.3 (Jul. 2001) (noting that many modern Integrated DLC systems "can operate in UDLC mode."). Frequently, unbundled access to Integrated DLC-fed hybrid loops can be provided through the use of cross-connect equipment, which is equipment incumbent LECs typically use to assist in managing their DLC systems. McLeodUSA Nov. 15, 2002 DLC systems *Ex Parte* Letter at 10-11 (describing use of cross-connect equipment to provide unbundled loops over Integrated DLC systems); *Pronto Modification Order*, 15 FCC Rcd at 17565-66, App. B, C (showing that SBC typically uses a cross-connect in its network to establish the connection between the feeder loop plant and its circuit and packet switches); Verizon July 19, 2002 *Ex Parte* Letter at 3 (showing that Verizon typically uses central office terminations and cross-connects). McLeodUSA explains that an incumbent LEC can configure most Integrated DLC systems to assign requesting carriers "individual interface groups" that assist in establishing a complete transmission path between the central office and the customer's premises. In this way, incumbent LECs can provide Integrated DLC-fed hybrid loops on an unbundled basis. McLeodUSA Dec. 18, 2002 *Ex Parte* Letter at 10. In addition, McLeodUSA further explains that manufacturers either already account for an incumbent LEC's regulatory obligations in designing equipment (and software used to upgrade that equipment) or are planning to do so. *Id.* at 11 n.15.

[856] Both competitive LECs and incumbent LECs report that approximately 30,000, *i.e.*, between 3% to 5%, of the nation's commercial office buildings are served by competitor-owned fiber loops. *See*, *e.g.*, ALTS *et al*. Comments at 52 (citing to WorldCom Comments, CC Docket Nos. 96-98 at 7 (filed June 11, 2001) (WorldCom June 11, 2001 High-capacity Comments)); Sprint Comments at 23-24; WorldCom Comments at 74-76; *see also BOC UNE Rebuttal Report* at iv, 44; Letter from Ruth Milkman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Oct. 30, 2002) (discussing high-capacity transmission facility deployment) (WorldCom Oct. 30, 2002 *Ex Parte* Letter); AT&T Comments at 152 (citing proprietary information); Cbeyond *et al*. Comments, CC Docket 96-98 at 23 (filed June 11, 2001) (Cbeyond *et al*. June 11, 2001 High-capacity Comments) (citing confidential information in attached Affidavit of Michael P. Duke, KMC Telecom, Inc. (KMC Duke June 11, 2001 High-capacity Aff.) at para. 5); NuVox *et al*. Comments, Affidavit of Nicholas D. Jackson, TDS Metrocom, Inc. (TDS Jackson Aff.) at para. 6; El Paso *et al*. Comments at 16. Competitive carriers indicate that most of these commercial office buildings are carrier hotels or large office buildings. *See, e.g.*, ALTS *et al*. Comments at 52; WorldCom June 11, 2001 High-capacity Comments at 9; El Paso *et al*. Comments at 16. Some commenters indicate that other facilities-based competitive LECs may have self-(continued….)

they predominantly do so at the OCn-level.[857] In addition, the record shows that competitors have built fiber loops to buildings that carry a significant portion of the competitive traffic in certain MSAs.[858] In contrast, the record contains little evidence of self-deployment, or availability from alternative providers, for DS1 loops.[859] As for DS3 loops, evidence of self-deployment and wholesale availability is somewhat greater than for DS1s and is directly related to location-specific criteria.[860] Indeed, competitive LECs agree that at a three DS3 loop capacity

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deployed high-capacity loops, but have not submitted comments in this proceeding. *See, e.g.*, SBC Comments at 102; Verizon Comments at 117.

[857] *See, e.g.*, ALTS *et al*. Comments at 52; CCG July 17, 2002 CLEC Survey *Ex Parte* Letter at 6-7; WorldCom Comments at 76; WorldCom Fleming Decl. at para. 10; NewSouth Reply at 17.

[858] *See, e.g.*, *BOC UNE Rebuttal Report* at 45 (relating this figure to a typical Tier-I MSA but stating that New York, San Francisco, Washington, D.C., and Los Angeles account for 40% of all data revenue nationwide).

[859] Based on the record as a whole, for DS1 loops and some DS3 loops, overbuilding to enterprise customers that require services over these facilities generally does not present sufficient opportunity for competitors to recover their costs and, therefore, may not be economically feasible. *See*, *e.g.*, Covad Reply at 56; AT&T Jan. 14, 2003 *Ex Parte* Letter at para. 3 n.5; Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. B (filed Nov. 25, 2002) (AT&T Nov. 25, 2002 *Ex Parte* Letter) (providing loop build/no-build cost analysis); WorldCom Comments at 7; WorldCom Fleming Decl. at para. 10; Allegiance Reply at 38; NewSouth Reply at 17. In limited cases where evidence exists that a competitive LEC is serving customers via their own DS1 loops, the record suggests this is largely because these competitive LECs have *already* self-provisioned OCn level capacity to that specific location and other deployment barriers have not precluded them from using that capacity to serve other customers at lower loop capacity levels at that same location. *See* Letter from Joan Marsh, Director, Governmental Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, at para. 2 (AT&T Jan. 14, 2003 *Ex Parte* Letter); WorldCom June 11, 2001 High-capacity Comments at 8 (citing confidential information) and Attach. B, Proprietary and Confidential Declaration of Jay Slocum (WorldCom Slocum Decl.) at paras. 3-6.

[860] *See, e.g.*, WorldCom Fleming Decl. at para. 10 (when customer demand is projected at several DS3s or optical level capacity a self-build decision is made); WorldCom Comments at 7 (customers in a building must commit to at least three DS3 circuits before it is economically viable to extend fiber to that building); AT&T Comments at 134 (a competitive LEC can only self-deploy to a location with enormous demand, the smallest of which would be at the OC3 level); AT&T Nov. 25, 2002 *Ex Parte* Letter at 3 (the amount of committed traffic to support construction of loops for large business customers is about three DS3s, *i.e*., an OC3), and Attach. B at 9 (at least three DS3s worth of demand is required before a facility build can generally be proven as financially prudent). The record also contains some evidence that DS3 loop services may be available from alternative providers other than the incumbent LECs in some buildings where competitive capacity to the building has already been provisioned at the OCn level. *See* Sprint Comments at 23-24; Letter from John E. Benedict, Senior Attorney, Sprint, to Marlene H. Dortch, Secretary, FCC, CC Docket 01-338, 96-98, 98-147, Attach. at 1 (filed Oct. 16, 2002) (Sprint Oct. 16, 2002 *Ex Parte* Letter); WorldCom Comments at 16; KMC Duke June 11, 2001 High-capacity Aff. at para. 5 (citing confidential information); SBC Reply at 143 (citing AT&T Comments at 150 n.10 (citing confidential information)); WorldCom Slocum Decl. at paras. 3-6; AT&T Reply at 185 (citing CCG July 17, 2002 CLEC Survey *Ex Parte* Letter at 6 & Table 3); NuVox *et al*. Comments at 7.

level of demand, it is economically feasible to self-deploy,[861] and record evidence reveals that both AT&T and WorldCom have self-provisioned DS3 circuits to many customer locations.[862]

299. The record also contains extensive, albeit contradictory, evidence regarding the degree to which competitors rely on the incumbent LEC's facilities versus their own to provision loops to their customers. According to the BOC UNE Fact Report 2002, market statistics show that competitive LECs are now serving between 13 and 20 million business lines off their own switches – yet they have obtained only about 1.5 million unbundled loops to serve business customers.[863] The BOCs conclude that competitive LECs are, therefore, serving the remaining 85-95 percent of those 13-20 million self-switched business lines using "alternative facilities" instead of unbundled loops.[864] In addition, the BOCs state that virtually all of the high-capacity unbundled loops that competitive LECs have purchased in the BOC territories are DS1 loops and that competitive LECs have purchased only 140 unbundled DS3 loops, and not a single unbundled loop above a DS3 level.[865] The BOCs reason that these figures reflect that competitive LEC fiber networks are now so extensive in urban markets that they readily can be – and routinely are – extended as needed to pick up additional traffic from new customers in adjacent buildings, or down the block, and on outward from there.[866] According to the BOCs, once a competitive LEC deploys its initial fiber ring, extending that fiber incrementally to new customers is comparatively inexpensive.[867]

300. Competitive LECs strongly disagree with the BOCs' figures on line deployment, claiming these numbers are far less reliable than the data the Commission itself collects to measure competitive LEC deployment and the level of local competition.[868] Competitive carriers point to our own statistics which reveal that competitive LECs serve fewer than 9 million business lines nationwide, *i.e.*, not the 13 to 20 million lines that the incumbent LECs claim.[869]

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[861] *See supra* note 860.

[862] *See* SBC Reply at 143 (citing AT&T Comments at 150 n.10 (confidential information)); WorldCom Slocum Decl. at paras. 3-6; *see also* CCG Jul. 17, 2002 CLEC Survey *Ex Parte* Letter (indicating that competitive loop capacity has been deployed into buildings but not indicating at what capacity level customers are served in those buildings).

[863] BOC UNE Fact Report 2002 at IV-1 through IV-4.

[864] The BOCs also claim that competitive LECs have deployed approximately 1,800 fiber "networks" in the 150 largest MSAs. BOC UNE Fact Report 2002 at I-3.

[865] BOC UNE Fact Report 2002 at IV-6. Specifically, the BOC UNE Fact Report 2002 states that competitive LECs have purchased a total of 72,000 high-capacity loops UNEs – all but 140 of which are DS1s. *Id.*

[866] *See* BOC UNE Fact Report 2002 at IV-4.

[867] *Id.*

[868] *See, e.g.*, El Paso *et al*. Comments at 16-18 & n.68 (citing numerous other competitive LEC comments).

[869] AT&T Reply, Declaration of C. Michael Pfau (AT&T Pfau Reply Decl.) at paras. 2, 12-14 (describing how the incumbent LECs' methods for determining the number of competitive loops deployed substantially overstates the (continued….)

They further claim that this discrepancy is due in large part to the BOCs' inclusion of special access lines as alternative facilities in the BOC UNE Fact Report 2002.[870] Further, these commenters correctly note that the Commission staff's *Local Competition Report*, which calculates approximately 8.9 million voice-grade equivalent (VGE) lines for competitive LECs, explicitly indicates that it does not count special access lines as competitive LEC self-provisioned or "alternative provided" lines.[871] The BOCs acknowledge the inclusion of special access lines in their data, thus accounting for the approximate 15.8 million VGE differential from the Commission's *Local Competition Report*.[872]

301. Finally, the record indicates that various types of alternative transmission technologies to high-capacity local loops, *i.e.*, fixed-wireless, unlicensed-wireless, and satellite facilities, have been deployed in limited circumstances at certain locations.[873] The record, however, does not indicate the extent to which these alternative transmission technologies have been deployed or where they are available on a wholesale basis.[874] Nevertheless, it appears that, in certain circumstances, such technologies have been used by competitive LECs as alternatives to incumbent LEC unbundled high-capacity loops.[875] Incumbent LECs report that competitive carriers can often deploy fixed wireless connections more quickly and cheaply than fiber, and that free space optics, *i.e.*, laser-guided high-bandwidth connections to a fiber backbone, is now

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actual number by including, *inter alia*, leased special access circuits and other "flawed" assumptions). *See* Covad Reply 55; AT&T Reply at 182-85; NuVox *et al*. Reply at 42; WorldCom Comments at 76 (arguing that even in the most competitive market in the country, incumbent LECs have seven times more fiber than competitive LECs do).

[870] *See, e.g.*, AT&T Pfau Reply Decl. at paras. 14 (indicating that his experience recognizes that a much greater proportion of circuits are bought as special access).

[871] *See Local Competition June 2002* at 1 n.2, <http://www.fcc.gov/wcb/iatd/stats.html>.

[872] S*ee BOC UNE Rebuttal Report* at 45 (acknowledging that special access lines are, indeed, included in their numbers). In evaluating the extent to which competitive LECS have self-provisioned, the Commission has instructed competitive carriers to exclude local services provisioned over special access facilities in their reported data. *See supra* note 871. Because the Commission places little weight on the availability of special access in its impairment analysis, we do not rely on evidence that includes such lines.

[873] *See, e.g.*, BellSouth Comments at 42-43; SBC Comments at 91; Verizon Comments at 118.

[874] *See, e.g.*, ALTS *et al*. Comments at 45; Allegiance Comments at 19-22; Allegiance Reply at 36; AT&T Fea/Giovannucci Reply Decl. at 21 n.19; WorldCom June 11, 2001 High-capacity Comments at 13-14; Covad Comments at 49-50; Sprint Comments at 24-25; TDS Jackson Aff. at para. 9.

[875] *See Local Telephone Competition December 2002* Report; *see also* Allegiance Comments at 20-21; Sprint Comments at 25; Verizon Comments at 118.

a viable technology.[876] Competitive LECs, however, question the extent to which this deployment is widespread and point to certain technical limitations of such technologies.[877]

(ii) Impairment Analysis

(a) Operational and Economic Barriers to Serving the Enterprise Market

302. Enterprise market customers demand reliable services that include customized products, significant customer care, and enhanced security features.[878] Moreover, they prefer a single provider capable of meeting all their needs at each of their business locations which may be in multiple locations in different parts of the city, state or country.[879] The economics of serving a particular enterprise customer at each of its business' facilities may be very different depending on the location of the facility.[880] Small to medium-sized business customers generally demand services at the DS1, and to a lesser extent, DS3 capacities.[881] Competitive LECs meet these demands by providing packages of services, carrying both voice and data traffic, sold under month-to-month or short-term contracts.[882] In contrast, larger enterprise customers

[876] *See, e.g.*, Verizon Comments at 118 (stating that fixed wireless and free space optics is available for high-capacity links); SBC Reply at 91 (fixed wireless and satellite are broadband options for small business users).

[877] *See, e.g.*, Sprint Comments at 24-25 (indicating its significant experience with fixed wireless and noting its limitations and delayed development); TDS Jackson Aff. at para. 9 (indicating wireless loop alternatives are too costly, not available in TDS markets, and are not sufficiently robust platforms for TDS services); WorldCom June 11, 2001 High-capacity Comments, Attach. D, Affidavit of A. Daniel Kelley & Richard A. Chandler (WorldCom Kelley & Chandler June 11, 2001 High-capacity Aff.) at paras. 38-45 (arguing that there have been abortive attempts by competitors to provide high-capacity access to business customers using several fixed wireless technologies). We note that fixed wireless alternatives require Commission issued licenses and are subject to the availability of limited spectrum resources.

[878] *See, e.g.*, GCI Reply at 20.

[879] *See, e.g.*, WorldCom Comments at 13-18; Covad Reply at 57.

[880] *Id*. The loop capacity impairment approach we adopt today accommodates the need to serve a single enterprise customer at multiple locations because it recognizes that it may only be economical to build at the primary location where the loop capacity demanded is very high, enabling the competitive LEC to obtain unbundled lower capacity loops to serve the customer's other business locations.

[881] *See, e.g.*, NewSouth Reply at 16 (DS1 loops serve smaller businesses and DS3 and OCn serve larger businesses); NuVox *et al*. Reply at 39-41 (T1 facilities serve innovative bundled service offerings efficiently to small and medium business customers); Allegiance Reply at 35-36 (a significant segment of business customers are small and medium-sized enterprises that use DS1 capacity services).

[882] *See, e.g.*, ITC^Deltacom Aug. 16, 2001 Petition at 1-2; NewSouth Comments at 5; Affidavit of Edward J. Cadieux, NuVox (NuVox Cadieux Jan. 24, 2003 Aff.) at paras. 4-5, *in* Letter from Steven A. Augustino, Counsel for NuVox *et al*., to William Maher, Chief, Wireline Competition Bureau, FCC, CC Docket No. 01-338, 96-98, 98-147 (filed Jan. 24, 2003); *see also* Letter from Kimberly Scardino, Senior Counsel, WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Jan. 31, 2003) (WorldCom Jan. 31, 2003 *Ex Parte* Letter).

demand extensive services using multiple DS3s or OCn loops typically offered under long-term arrangements which guarantee a substantial revenue stream over the life of the contract.[883]

303. Because the cost to self-deploy local loops at any capacity is great,[884] and the cost to deploy fiber does not vary based on capacity,[885] a competitive LEC that plans to self-deploy its own facilities must target customer locations where there is sufficient demand from a potential customer base, usually a multiunit premises location, to generate a revenue stream that could recover the sunk construction costs of the underlying loop transmission facility, including laying the fiber and attaching the requisite optronics to light the fiber.[886] For competitive LECs deploying a very high-capacity loop facility to a particular customer location, the revenue commitment relative to the cost of constructing that loop facility may result in a positive profit margin for that single customer location, making it economically feasible from a profitability perspective, to self-provision in that particular case.[887] Even when the customer demand at a certain location may support self-deployment from a pure cost recovery perspective, however, there are other obstacles that must be overcome before such self-deployment can effectively occur.[888] These other barriers include the inability to obtain reasonable and timely access to the customer's premises both in laying the fiber to the location and getting it into the building thereafter,[889] as well as convincing customers to accept the delays and uncertainty associated with deployment of alternative loop facilities.[890]

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[883] *Id.*

[884] In discussing the general economic characteristics of loop deployment above, we noted that loop construction costs do not vary by the capacity of the loop and that the ability to recover the high fixed and sunk costs is the key factor to considering impairment. We also observed that loop impairment is closely related to the demands of the individual customer served by such loop and the capacity level of the loop provided. *See supra* Part VI.A.3.

[885] *See supra* Part VI.A.3.; *see also* Letter from Stephen W. Crawford, General Counsel, El Paso Global Networks, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1 (filed Feb. 5, 2003) (El Paso Feb. 5, 2003 *Ex Parte* Letter).

[886] *See, e.g.*, Allegiance Comments at 23; WorldCom Comments at 76; AT&T Reply at 145; *see also* TDS Jackson Aff. at para. 8.

[887] *Id.*; *see also* TDS Jackson Aff. at paras. 8-10.

[888] *See, e.g.*, El Paso *et al*. Comments at 20-21.

[889] *See, e.g.*, ALTS *et al*. Comments at 56 (discussing other barriers competitive LECs face in self-deployment); AT&T Reply at 174-79.

[890] *See, e.g.*, Sprint Comments at 23; AT&T Reply at 175. Competitive LECs argue that they can not feasibly construct loop facilities and justify the fixed and sunk costs that self-provisioning will entail in advance of securing firm customer commitments guaranteeing the likelihood of cost recovery. *See, e.g.*, NuVox *et al*. Comments at 74; AT&T Reply at 176-77; Supra Comments at 7. This barrier to entry can be exacerbated when states adopt service quality rules that require local service providers to be in a position to provision service within a specified number of days after a customer signs up for service. *See, e.g.*, Ohio Admin Code Ch. 4901 § 1-5-20 (C); 220 ILCS 5 § 13-712; 83 ILAC § 730.540.

304. The record reflects that constructing local loops generally takes between 6-9 months without unforeseen delay.[891] Competitive LECs describe numerous ways in which further delay affecting construction decisions and deployment occurs. These delays can be attributable to securing rights-of-way from local authorities which is necessary before competitive LECs can dig up streets to lay fiber. Often, carriers must engage in lengthy negotiations with local authorities over the ability to use the public rights-of-way.[892] Similarly, obtaining building and zoning permits adds further delay as local authorities often conduct extensive inquiries into the planned construction activity of the competitive carrier.[893] Moreover, commenters note that many local jurisdictions impose construction moratoriums which prevent the grant of a franchise agreement to construct new fiber facilities in the public rights-of way.[894]

305. In addition to delays associated with gaining access to rights-of-ways and permits from local or municipal authorities, competitive LECs face additional barriers with regard to serving multiunit premises due to difficulties and sometimes outright prohibitions in gaining building access.[895] Although multiunit premises could present substantial economic opportunities for competitors, if the entity or individual controlling access to the premises does not allow a competitor to reach its customer residing therein (or places unreasonable burdens on the competitive LEC as a condition of entry), the competitive LEC may be unable to serve its customer via its own facilities,[896] even where a competitive carrier may be ready, willing, and otherwise able to self-deploy the loop.[897]

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[891] *See, e.g.*, ALTS *et al*. Comments at 58; WorldCom Comments at 75 (citing WorldCom Fleming Decl.).

[892] Because of the expense and delay associated with filing a preemption petition, carriers rarely avail themselves of section 253(c) of the Act. *See* 47 U.S.C. § 253(c).

[893] *See, e.g.*, ALTS *et al*. Comments at 23-24. Incumbent LECs argue, however, that actual competitive LEC deployment undermines these arguments. *See, e.g.*, SBC Reply at 156.

[894] *See, e.g.*, ALTS *et al*. Comments at 42, 50, 56, 58; *see also* New York Department Comments at 4. Incumbent carriers, however, generally argue that competitive LECs are not impaired by rights-of-way costs and delays. BellSouth argues that mandatory access to rights-of-way means that there are not generally extreme delays caused by disputes, and competitive LECs can turn to the accelerated docket if need be. BellSouth Comments at 68-69.

[895] *See, e.g.*, AT&T Reply at 175 (stating that the time to negotiate building access arrangements can be up to 18 months); *see also* WorldCom Oct. 25, 2002 Building Access *Ex Parte* Letter.

[896] *See, e.g.*, AT&T Reply at 178-79. Verizon argues that, in the interim, competitive LECs can purchase special access services or use wireless or "free-space optics" loop in the interim during construction of the loop. Verizon Comments at 120-23. Competitive LECs, however, question the extent to which these wireless modes are available for use on an interim basis. *See supra* Part VI.A.4.a.(iii)(b). As for Verizon's suggestion that the use of special access services is sufficient, the Commission has stated it does not factor the availability of incumbent LEC's special access services into its loop impairment analysis. *See supra* Part V.B.1.d.(ii).

[897] *See, e.g.*, ALTS *et al*. Comments at 56-58; WorldCom Oct. 25, 2002 Building Access *Ex Parte* Letter; AT&T Reply at 175. We address building access-related barriers to loop deployment in greater detail below in our subloop and NID unbundling analyses, particularly, with respect to the Inside Wire Subloop. We expect that the subloop and NID unbundling rules that we adopt today will substantially mitigate the adverse impact of many of the building access-related barriers requesting carriers face with respect to serving customers in multiunit premises, particularly (continued….)

306. In conducting our impairment analysis, we give substantial weight to the cost of constructing a loop facility in relation to the ability of the competitive carrier to recover those costs over time, *i.e.*, where the traffic volume and associated revenue potential from the loop facility allow a carrier to earn a return necessary to sustain its operations at that location. We do, however, consider other factors affecting competitive LEC loop deployment, including access to public and private rights-of-way and multiunit premises access, that incumbent LECs have not or do not similarly face as a result of their first-mover advantage. Altogether, these factors directly influence the ability of competitive carriers to raise capital to deploy service to customers using their own loop facilities in a timely manner. The record reflects that these barriers can be overcome at certain loop capacity levels and certain service locations as we explain below.[898]

(b) General Framework

307. We organize our analysis of high-capacity loops based on capacity level because it is a more reliable indicator of the economic abilities of a requesting carrier to utilize third-party alternatives, or to self-deploy. At the same time, we recognize that operational and economic concerns will vary depending on the geographic market served. We find that the extent of competitive deployment of high-capacity loop facilities can vary tremendously by geographic area. More specifically, the barriers to entry requesting carriers face are most precisely identified on each geographic route serving a particular customer location. Where our record permits, however, we distill general characteristics of high-capacity loop deployment on a national level sufficient to make nationwide determinations of impairment and non-impairment. Where the record indicates impairment and that only with more granular evidence could a finding of non-impairment be made, we establish triggers to identify non-impairment based on customer location-specific evidence.

308. In conducting our impairment analyses for the various types of high-capacity loops, we first consider evidence of whether competitive LECs have self-deployed such loop facilities, on either an intermodal or intramodal basis, to provide retail services to enterprise market customers.[899] In our analysis, we recognize that a variety of alternative high-capacity loop transmission technologies, in various stages of development and use, are offered to enterprise customers in certain locations as potential alternatives to their traditional high-capacity loops, *i.e.*, different types of fixed-wireless, *e.g.*, 38 GHz, LMDS, MMDS, and 24 GHz;

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where the incumbent LEC's network extends beyond the minimum point of entry at the premises and the wiring in the building is owned and controlled by the incumbent LEC. Moreover, the Commission still has an open proceeding, WT Docket No. 99-217, related to building access. *See Competitive Networks Order*, 15 FCC Rcd 22983.

[898] *See supra* para. 298; *see also* Allegiance Comments at 23; ALTS *et al*. Comments at 58.

[899] *Iowa Utils. Bd*., 525 U.S. at 389 (noting that the Commission must consider the availability of elements "outside the incumbent's network" when applying the "impair" standard). *See also* ITTA Jan. 29, 2003 *Ex Parte* Letter, Attach. at 1 (noting that the question is whether elements are available from sources other than incumbent LEC).

satellite facilities; and unlicensed wireless.[900] As we have indicated above,[901] evidence of self-deployment demonstrates better than any other kind of evidence what business decisions competitive carriers have *actually* made regarding the feasibility to deploy facilities without relying on the incumbent LEC. This evidence shows us, as a practical matter, that competitive LECs have been able to surmount barriers to entry with respect to that particular loop deployment. We then consider the extent of this deployment, whether it occurs or could occur on a nationwide basis, or is more limited in scope. Next we look at the extent to which wholesale alternatives to the incumbent LEC's unbundled loops are available to competitive LECs to provision high-capacity loops to their customers. We consider whether these alternatives, including alternative transmission technologies, are available ubiquitously or only in certain places.

309. We note that our consideration of alternative loop technologies in the enterprise market analysis differs from our consideration of intermodal alternatives in our mass market analysis. Different approaches are warranted because of the differences in how these technologies are deployed in these markets based on their suitability to individual customers, as well as the likelihood these technologies could be self-provisioned or made available to competitive carriers on a wholesale basis.[902] In the enterprise market, companies are able to target individual buildings and customers and determine which technology is the optimal means of reaching each customer. On the other hand, in the mass market where revenues are small, customers are typically served in large groups, using uniform technologies and mass marketing and provisioning techniques to minimize the cost of serving each customer.[903] As such, creating mechanisms to identify intermodal alternatives on an individual customer basis in the mass market is impractical, whereas it is feasible, in certain cases, in the enterprise market.

310. We find that certain types of alternative loop technologies could be made available on a wholesale basis to competitive carriers for providing high-capacity loop services to particular building locations in the enterprise market. Providers of viable intermodal alternatives to mass market customers have shown no inclination to provide access to competing carriers to serve their customers, nor would we expect them to.[904] With respect to the ability of a competitive LEC to self-provision high-capacity loops using alternative loop technologies, there are substantial differences between the mass market and the enterprise market. For example, one

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[900] *See, e.g.*, BellSouth Comments at 42-43; SBC Comments at 91; Verizon Comments at 118; *see also* ALTS *et al*. Comments at 45; Allegiance Comments at 19-22; Allegiance Reply at 36; AT&T Fea/Giovannucci Reply Decl. at 21.

[901] *See supra* Part V.B.

[902] *See supra* Part V.B.1.d.(ii); *see also supra* Part VI.A.4.a.(iv).

[903] Thus, those technologies that can only be used for accessing certain customers and require equipment installation at the customer location, such as fixed wireless, have only proven to be economically viable for customers found in the enterprise market.

[904] A provider that has privileged access to a single mass market customer potentially will lose the customer if it provides wholesale access to a potential competitor.

of the mass market's major alternative loop technologies, cable telephony, is only available to cable TV companies that, because of their unique economic circumstances of first-mover advantages[905] and scope economies,[906] have access to the customer that other competitive carriers lack. Other technologies, such as fixed wireless, have not proven to be viable or deployable on a mass market scale. This contrasts with the enterprise market, where the record reflects that alternative technologies are available to some degree at certain locations that might be used by competitive carriers to provide high-capacity loops to enterprise customers.

(c) Capacity-based Impairment Findings

(i) Dark Fiber Loops

311. We find on a national basis that requesting carriers are impaired at most customer locations without access to dark fiber loops. Dark fiber, unlike "lit" fiber, is unused fiber within an existing fiber optic cable that has not yet been activated through optronics to render it capable of carrying communications services.[907] Users of unbundled dark fiber loops, similar to users of dark fiber transport,[908] provide the electronic equipment necessary to activate the dark fiber strands to provide services.[909] While the underlying capacity level of a strand of dark fiber is comparable in total capacity to an OCn loop, we address dark fiber loops separately from OCn loops due to economic and operational characteristics that distinguish dark fiber from "lit" fiber.[910] We make our determination of impairment based on the high sunk costs associated with

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[905] These companies had the advantage of beginning with exclusive franchises and a captive market. These advantages are not available to other entrants.

[906] Scope economies exist when the cost of providing a service is lower when combined with other services. The cost of providing cable telephony to customers is lower for cable TV companies because they also provide video services to those customers.

[907] *See supra* note 628 (definition of dark fiber).

[908] *See infra* Part VI.C.4.c.(i).

[909] By itself, dark fiber has virtually unlimited capacity. It is the electronics that define the capacity. *See* El Paso Feb. 5, 2003 *Ex Parte* Letter at 2; *see also* AT&T Comments at 130; Letter from Thomas Jones, Counsel for Conversent Communications, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-2 (filed Dec. 24, 2002) (Conversent Dec. 24, 2002 *Ex Parte* Letter).

[910] For example, competitive providers that use unbundled dark fiber claim that it can offer a higher level of service than "lit" transmission because unbundled dark fiber integrates more efficiently into their networks by reducing the number of failure points and by providing the competing carrier with greater ability to test for quality and maintenance. *See* Conversent Comments at 7; Letter from Scott Sawyer, Vice President - Regulatory Affairs, Conversent Communications, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Oct. 10, 2002) (Conversent Oct. 10, 2002 *Ex Parte* Letter). Other competitive carriers indicate that dark fiber gives them greater control over their own network components which is an important aspect of their competitive service offerings. *See* Letter from Lawrence R. Freedman, Counsel for Norlight, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Dec. 30, 2002) (Norlight Dec. 30, 2002 *Ex Parte* Letter). In the *UNE Remand Order*, we recognized that the characteristics of dark fiber do not vary between loop and transport deployment. Because dark fiber is more extensively used in transport, we discuss its characteristics in more detail below in our discussion of dark fiber transport and do not repeat such discussion here other than to (continued….)

deploying high-capacity loop facilities and lack of evidence showing alternatives at specific customer locations.

312. Dark fiber exists in a carrier's network as unused fiber available because that carrier has deployed fiber in the first instance for the express purpose of lighting certain strands of it to serve a particular customer location.[911] The "dark" fiber strands, however, remain unlit. Dark fiber loop construction, like loops generally, involves substantial fixed and sunk costs. The primary costs associated with fiber deployment lie in the substantial sunk costs associated with physically laying the fiber cable.[912] In addition, there are other barriers that must be overcome before deployment can effectively occur.[913] These other barriers include the inability to obtain reasonable and timely access to the customer's premises both in laying the fiber to the location and getting it into the building thereafter,[914] as well as convincing customers to accept the delays and uncertainty associated with deployment of alternative loop facilities.[915] It is only when a competitive LEC has sufficient demand for "lit" fiber to a particular customer location to enable it to recover the fixed and sunk costs of the fiber deployment that it is economically feasible for that competitor to deploy fiber to that location.[916] When a fiber build decision is made, carriers take advantage of the fact that they are already incurring substantial fixed costs to obtain the rights-of way, dig up the streets, and trench the cable, to lay more fiber than they immediately need. Once the significant fiber construction cost is incurred,[917] the record reflects that it is relatively easy and inexpensive to install fiber strands in excess of current demand at that time to maximize the use of the conduit and avoid the need to incur duplicate costs to retrench the same

(Continued from previous page)

indicate that the characteristics of dark fiber described therein pertain to dark fiber loops as well. *See infra* Part VI.C.4.c.(i). Any operational or provisioning requirements associated with incumbent LEC provisioning of unbundled dark fiber transport apply equally to provisioning unbundled dark fiber loops. *See id*., para. 384 (discussing issues associated with dark fiber access and granting states the flexibility to establish reasonable limitations and technical parameters).

[911] Competitive carriers indicate that they, unlike the incumbent LEC, can not build fiber loop plant until they have secured a substantial customer base and revenue stream. *See* Letter from Robert J. Aamoth, Counsel for Dominion Telecom, to Michael K. Powell, Chairman, FCC, CC Docket No. 01-338 at 4 (filed Jan. 28, 2003) (Dominion Jan. 28, 2003 Aamoth *Ex Parte* Letter); *see also* El Paso *et al*. Comments at 9.

[912] *See supra* Part VI.A.3 (discussing loop construction costs); *see also* El Paso Feb. 5, 2003 *Ex Parte* Letter at 1.

[913] *See, e.g.*, El Paso *et al.* Comments at 20-21.

[914] *See, e.g.*, ALTS *et al*. Comments at 56 (discussing other barriers competitive LECs face in self-deployment); AT&T Reply at 174-79.

[915] *See supra* note 890.

[916] *See infra* Part VI.A.4.b.(i) (stating that evidence that the specific level of demand must be OCn or 3 DS3s of capacity into a particular customer location to justify competitive loop deployment); *see also supra* note 911.

[917] *See supra* Part VI.A.3 (discussing loop construction costs); *see also* El Paso *et al*. Comments at 20-21.

location in the future if demand for additional fiber facilities occurs.[918] As such, incumbent LECs are the largest source of intracity dark fiber nationwide as a result of their "first-mover" fiber deployment to the majority of customer locations.[919] This sharply contrasts with the availability of competitive dark fiber loops, which is necessarily limited by the economic barriers inherent in deploying alternative fiber loops, generally, except to certain customer locations.[920]

313. Because it is generally not economically feasible to deploy duplicate fiber loop facilities, the record reflects that a number of facilities-based competitive LECs rely on incumbent LEC unbundled dark fiber to provision "last-mile" services to small and medium-sized customers, particularly in rural, unserved, or underserved areas of the country.[921] These users of unbundled dark fiber provide the necessary optronics[922] and collocations that are preconditions to activating the fiber to serve customers. These carriers extensively deploy their own network facilities, *e.g.*, switches, transport, and the necessary optronics to light dark fiber to enable the provision of competitive high-capacity local service to end users in direct competition with the incumbent LEC.[923] These competitive LECs argue that they seek to construct their own fiber loops all the way to the customer if economically feasible to self-deploy, but that in many areas the level of demand is not sufficient to warrant overbuilding the dark fiber already available from incumbent LECs.[924] Because it is not economically feasible to self-deploy to many enterprise market customer locations, particularly less densely populated areas, unbundled dark fiber loops enable competitive carriers to build facilities-based networks to serve customers

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[918] *See, e.g.*, El Paso *et al*. Comments at attached TPUC testimony at 8 (indicating an industry average of a "mere" $1.00 per foot to increase fiber placement from a 72 fiber strand cable to the next standard 144 size fiber strand cable); *see also* Norlight Dec. 30, 2002 *Ex Parte* Letter at 5.

[919] *See* Norlight Dec. 30, 2002 *Ex Parte* Letter at 5 (the first carrier to lay fiber to a particular location will lay significantly more than it will need because the incremental cost of burying additional fibers is negligible; requiring competitors to construct duplicate facilities where there is already excess capacity in place is precisely the inefficiency the *USTA* court instructed the Commission to avoid).

[920] *See supra* note 905.

[921] *See, e.g.*, Dominion Jan. 28, 2003 Aamoth *Ex Parte* Letter at 4 (dark fiber loops are especially critical because they are often located in areas where few or no competitors presently serve customers; eliminating unbundled dark fiber loops would deprive hundreds of businesses in Tier II and III cities from receiving competitive service); Norlight Dec. 30, 2002 *Ex Parte* Letter at 5 (in smaller rural markets where dark fiber exists there typically is no demand or expected growth in demand to warrant additional facilities); Norlight Comments at 2-4 (Norlight serves Tier II and III cities where the incumbent LEC is the only option other than cost prohibitive self-deployment to extend competitive service to customers).

[922] We note that the cost of electronics, such as those used to activate dark fiber, are not sunk costs like fiber construction costs because they can be moved from one location to another location upon exit from a particular location.

[923] *See, e.g.*, Norlight Dec. 30, 2002 *Ex Parte* Letter at 2.

[924] *Id* at 5. Carriers also note that in these more rural areas it actually may be less costly to both in time and dollars to self-deploy fiber than in more urban areas, but the level of demand to a customer location may simply be too low to justify the cost of installing duplicative facilities. *Id* at 3.

at those locations[925] with the least reliance on the incumbent LEC's facilities.[926] We find that dark fiber loops allow competing carriers to provide services without incurring many of the high sunk costs of self-deploying the loop facility, but still require significant investment in collocation and optronics. We expect that unbundling of dark fiber loops will encourage construction of alternative facilities because it will provide facilities-based carriers the means of obtaining the last-mile facility necessary to serve customers over competitive networks comprised largely of facilities other than the incumbent LEC's. The availability of dark fiber loops increases the ability of facilities-based competitive LECs to reduce their reliance on unbundled "lit" high-capacity loops at locations where dark fiber loops are available to them, encouraging investment in the optronics necessary to light the fiber.[927] Moreover, unbundling dark fiber enables the Commission to limit unbundling obligations with respect to certain high-capacity "lit" loops as we discuss below.

314. In most areas, competing carriers are unable to self-deploy and have no alternative to the incumbent LEC's facility.[928] However, the record indicates that competitive LECs have been able to self-deploy fiber to some customer locations, although the record does not reveal the specific locations of such deployment.[929] For this reason, we delegate to the states the authority to collect and analyze more specific evidence of loop deployment on a customer location basis, applying a uniform national trigger that measures self-provisioning to determine customer locations where competitive carriers are not impaired without access to incumbent LEC unbundled dark fiber loops.[930]

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[925] *See, e.g.*, Dominion Jan. 28, 2003 Aamoth *Ex Parte* Letter at 2; Norlight Dec. 30, 2002 *Ex Parte* Letter at 5.

[926] *See, e.g.*, Letter from Joshua M. Bobeck, Counsel for El Paso Global Networks, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, 96-98, 98-147 at 2 (filed Oct. 4, 2002) (El Paso Oct. 4, 2002 *Ex Parte* Letter) (dark fiber is the UNE that is closest to 100% facilities-based competition).

[927] *See* Letter from Stephen W. Crawford, General Counsel, El Paso Networks, and Scott Sawyer, Vice President and Counsel, Conversent Communications, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 1 (filed Nov. 26, 2002) (El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter).

[928] *See supra* note 856; *see also* Letter from Brad E. Mutschelknaus, Counsel for OnFiber Communications, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, 96-98, 98-147 at 2 (filed Feb. 6, 2003) (OnFiber Feb. 6, 2003 *Ex Parte* Letter) (asserting that the vast expense associated with deploying dark fiber precludes self-provisioning and prevents any kind of alternative market from developing).

[929] *See supra* note 856; *see also* Letter from Patrick J. Donovan, Counsel for El Paso Networks LLC, to Marlene H. Dortch, Secretary, FCC, CC *Docket* No. 01-338 (filed Jan. 22, 2003) (El Paso Jan. 22, 2003 *Ex Parte* Letter); Letter from Ann D. Berkowitz, Project Manager – Federal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 19 (filed Jan. 31, 2003) (discussing competition for special access) (Verizon Jan. 31, 2003 Special Access *Ex Parte* Letter); Norlight Dec. 30, 2002 *Ex Parte* Letter at 2.

[930] *See infra* Part VI.A.4.b.(ii)(d) (discussing in detail the state reviews on a customer-location specific basis applying the defined Self-Provisioning Trigger and Competitive Wholesale Facilities Trigger).

(ii) OCn Loops

315. We find that requesting carriers are not impaired on a nationwide basis without access to unbundled "lit" OCn loops because the barriers relating to the deployment of OCn "lit" loops can be overcome through self-deployment at the OC3 and above level, the use of unbundled dark fiber, or the use of "lit" DS3s.[931] Record evidence reflects competitive deployment of loops at the OCn level and competitive carriers confirm they are often able to economically deploy these facilities to the large enterprise customers which use them.[932] Further, there does not appear to be any evidence of demand for incumbent LEC OCn level unbundled loops.[933] Competitive LECs have deployed OCn capacity to some commercial buildings nationwide, including Tier II and Tier III markets.[934] We find this evidence of deployment persuasive in demonstrating that competitive LECs can often overcome the barriers associated with loop deployment at the OCn level.

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[931] OCn circuits range from OC3 to OC192. The smallest common OCn capacity circuit, an OC3, is comparable in capacity to 3 DS3s, 84 DS1s, or 2016 voice-grade loops. Our impairment finding for OCn level loops differs from our finding for dark fiber loops as the economics of deploying "lit" fiber at the OCn level differs from deploying dark fiber at a comparable capacity level. While the construction-related costs in laying the fiber are the same, the ability to recover these sunk costs differs if considered as distinct types of loop facilities. As we noted in our discussion of dark fiber loops above, dark fiber is unused deployed fiber along a particular route that is not associated with a specific potential revenue stream from a known customer at the time of construction. *See supra* para. 312. A competitive LEC does not deploy dark fiber to use in self-provisioning high-capacity local service to customers *unless* that competitive LEC already has sufficient customer demand at a "lit" fiber level, *i.e.*, at the OCn or 3 DS3 level, to recover the sunk costs of the fiber construction. *See supra* note 911; *see also* Dominion Jan. 28, 2003 Aamoth *Ex Parte* Letter at 4. In other words, competitive carriers can not economically deploy dark fiber on a stand-alone basis for self-deployment purposes without an associated "lit" fiber demand. While carriers deploying OCn fiber loops must necessarily first deploy dark fiber and then attach the requisite optronics to activate the fiber for service capability at the OCn level, carriers deploying fiber to meet a particular customer demand for OCn capacity are viewed as deploying an OCn loop to serve that customer rather than deploying dark fiber to serve that customer.

[932] *See, e g.*, WorldCom Fleming Decl. at para. 10 (when customer demand is projected at several DS3s or optical level capacity a self-build decision is made); Letter from Ruth Milkman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, 96-98, 98-147, Attach. at 5 (filed Oct. 7, 2002) (WorldCom Oct. 7, 2002 *Ex Parte* Letter) (for self-deployment to be feasible, the demand must be for at least multiple DS3s); AT&T Comments at 134 (a competitive LEC can only self-deploy to a location with enormous demand, *i.e.*, the smallest of which would be at the OC3 level); AT&T Nov. 25, 2002 *Ex Parte* Letter at 2 (the amount of committed traffic to support construction of loops for large business customers is about 3 DS3s, *i.e.*, an OC3), and Attach. B at 9 (at least 3 DS3s worth of demand is required before a facility build can generally be proven as financially prudent).

[933] *See supra* para. 299 (BOCs state that not a single unbundled loop above a DS3 level has been purchased).

[934] *See* KMC Duke June 11, 2001 High-capacity Aff. at para. 3 (naming the Tier III markets they serve with their own facilities); CCG July 17, 2002 CLEC Survey *Ex Parte* Letter (explaining that the six metropolitan areas chosen to represent competitive LEC loop buildout – Albany, Augusta, Boston, Chicago, Corpus Christi, and Portland – represent a broad cross section of populations and business concentrations); *see also* WorldCom Oct. 30, 2002 *Ex Parte* Letter.

316. Commenters indicate that services offered over OCn loops produce revenue levels which can justify the high cost of loop construction, providing the opportunity for competitive LECs to offset the fixed and sunk costs associated with the loop construction. Large enterprise customers purchasing services over OCn loops[935] enter into long-term contracts committing to revenue streams and associated early termination charges that provide the ability for carriers to recover their substantial non-recurring "set-up" or construction costs.[936] Customers obtaining services at the OCn level also understand that transitioning such services to a new provider is not an overnight process. Because of their level of business planning sophistication, as a practical matter, they begin the process of seeking a new or alternative service provider well in advance of their actual need for the service.[937] Accordingly, they are more receptive to the inherent provisioning delays associated with constructing these high-capacity loops to meet their particular needs than smaller business customers served by lower capacity loops.[938] Competitive carriers deploying fiber at the OCn capacity level are therefore able to accommodate provisioning delays and additional expense at the start of the construction process, mitigating obstacles to self-deploying they may face in gaining access to public and private rights-of-way.[939]

317. Furthermore, enterprise customers requiring OCn level capacity are often located in multiunit premises where they may have the ability to exert greater influence over building access because: (1) their operations are so substantial that they own the premises outright; (2) they control the access to the premise; or (3) they have sufficient influence over the

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[935] We recognize that large enterprise customers may also have remote business locations that do not require the capacity of an OCn loop. We reiterate that we do not tailor our rules to restrict or limit unbundling based on the size or class of the customer served. A large enterprise customer's particular loop capacity demand at a given service location is determined by multiple factors unique to that customer's needs at that specific location, rather than the size of that customer. Merely because large enterprise customers are typically the only type of customer that purchase OCn capacity loops does not equate to the fact that OCn loops are the only type of loop such customers demand.

[936] *See supra* note 932; *see also* Declaration of Alfred E. Kahn and William E. Taylor, RM No. 10593 at 32-33 (discussing generally how long-term contracts and associated termination penalties are used to ensure cost recovery) *in* Verizon Jan. 31, 2003 Special Access *Ex Parte* Letter. Long-term contracts are used to minimize risk exposure and stabilize construction costs over time when the seller incurs heavy sunk costs as part of a transaction. *Id.*

[937] If this customer's competitive OCn loop is to be provisioned at their current business location, we understand they will generally begin the process of looking at alternative service providers months in advance of the expiration date of their current contract for service, which will usually include a provision for month-to-month service thereafter for as long as needed. If service is to be provided at a brand new location that the customer is moving to, or having built, at an OCn level of capacity, decisions regarding which service provider will provision that service will similarly be made months before occupancy. Each of these scenarios mitigates the impact of the lead time to build new loops with respect to serving these customers.

[938] *See, e.g.*, Sprint Comments at 23; WorldCom Fleming Decl. at paras. 9-10.

[939] To the extent these initial obstacles are in the form of unreasonably high costs for rights-of-way access, competitive LECs deploying fiber to serve customers at the OCn level are better able to overcome these barriers as the revenues associated with OCn capacity service contracts are quite high. *See generally* AT&T Comments at 134; WorldCom Comments at 76; *see also* TDS Jackson Aff. at para. 8.

landlord/building owner to overcome building access impairments the competitive provider may encounter due to the amount of leased occupancy space for which this enterprise customer has committed.[940]

318. Competitive carriers requiring OCn capacity "lit" loops to serve customers will also have the ability to purchase dark fiber, including unbundled dark fiber loops, and attach their own optronics to activate such loops to serve their customers at those locations where unbundled dark fiber is available. In circumstances where competitive LECs may be unable to self-deploy the underlying OCn fiber loop, the record demonstrates that there is no impairment with respect to obtaining and attaching the requisite optronics necessary to light dark fiber at the OCn level to provide service. Based on record evidence that self-deployment of the loop transmission facility at the OCn level is generally feasible, it necessarily follows that the lesser cost of self-providing just the optronics to light the fiber at the OCn level is economically feasible. While we recognize that dark fiber may not be available at every customer location nationwide, a competitive carrier may also access "lit" loops. Because the record demonstrates, however, that competitive carriers routinely self-deploy when customer demand is three DS3s (or optical capacity) as discussed further below, we limit the availability of "lit" DS3 loops to a maximum of two unbundled DS3 loops per carrier at each customer location.[941]

319. Finally, as we have noted, at least in the BOC regions, the record reflects that competitive LECs have not obtained unbundled loops at the OCn level.[942] Thus, there are few, if any, transition issues with regard to OCn loops. In the event a competitive LEC of which we are not aware is currently providing service over an unbundled OCn loop, the transition scheme that we have adopted herein governs such situation.[943]

(iii) DS3 Loops

320. We make a national finding that requesting carriers are impaired on a customer-location-specific basis without access to unbundled DS3 loops. The inability to recover the significant fixed and sunk construction costs of DS3 loops, coupled with the additional barriers to loop deployment associated with accessing rights-of-way; obtaining and paying for building access; and other service provisioning delays impair the ability of requesting carriers to self-provision single DS3 loops.[944] Unlike deployment at even the lowest OCn level, the record indicates that a single DS3 loop, generally, can not provide a sufficient revenue opportunity to

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[940] *See, e.g.*, AT&T Reply at 174-77.

[941] *See infra* para. 321.

[942] *See supra* para. 299.

[943] *See supra* Part VIII.D (addressing the transition process adopted herein).

[944] *See supra* Part VI.A.3 for a discussion of the general economic characteristics of loop deployment. Because the cost of constructing a fiber loop facility does not vary to any significant degree with loop capacity, to economically justify a particular loop construction expenditure, a competitive carrier must have some reasonable expectation of being able to recover its cost over time.

overcome these barriers.[945] Because our impairment analysis rests most heavily on the ability of a self-deploying carrier to recover its sunk and fixed costs, the inability to recover such costs at a single DS3 level results in impairment. In finding impairment based on the inability to recover sunk costs, we find that the other economic and operational barriers faced by competitive LECs in self-deploying loops generally, *i.e.*, difficulties in acquiring municipal and private rights-of-ways as well as gaining building access from owners of multiunit premises,[946] exist for competitive LECs with respect to single DS3 loop deployment.[947]

321. Despite the economic barriers that a competitive LEC faces in deploying single DS3 loops, the record indicates that some carriers have been able to overcome these barriers when providing multiple DS3s to a specific customer location.[948] Because the record does not, however, provide sufficient evidence to determine the specific factors that make such deployment feasible at these locations, we are unable to conclude with any precision exactly where requesting carriers would not be similarly impaired without access to unbundled DS3 loops.[949] Similarly, the record reflects a small but potentially growing wholesale alternative DS3 loop market.[950] Once again, however, the record in this proceeding does not specify exactly where this deployment has occurred. Therefore, as discussed below, we delegate to the states the

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[945] *See supra* note 860. The potential revenue stream associated with a customer commitment for a single DS3 loop is far less than the revenue stream associated with an OCn loop, yet the cost to construct the loop facility is the same. At the smallest OCn level, *i.e.*, OC3, there are 2,016 voice-grade equivalent lines. A single DS3 is equivalent to 672 voice-grade equivalent lines. A simple comparison of the relative voice-grade equivalent lines demonstrates that a customer commitment in terms of potential revenue stream for a DS3 is many times smaller than that of an OC3 loop. Accordingly, it takes a longer period of time for a competitive LEC to recover its costs of deploying a single DS3 loop facility.

[946] *See, e.g.*, AT&T Reply at 174-79 (discussing other barriers linked to the incumbent LECs' historical monopoly that preclude competitive loop deployment independent of cost factors); *see also* NuVox *et al*. Comments at 74; KMC Duke Aff. at paras. 7-9 (citing proprietary information); SNiP LiNK Polito Aff. at paras. 3-7; Sprint Comments at 22; Letter from Ruth Milkman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Oct. 25, 2002) (discussing building access barriers) (WorldCom Oct. 25, 2002 Building Access *Ex Parte* Letter); ALTS *et al*. Comments at 56.

[947] *See supra* Part VI.A.3. for evidence of the existence of the other operational barriers to DS3 loop capacity deployment.

[948] The record indicates that some competitive carriers have economically self-deployed DS3 capacity loops to certain customer locations where the aggregate demand for DS3 capacity at those locations is *three* or more. *See supra* note 860; *see also* Letter from David L. Lawson, Counsel for AT&T to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 02-33 at 1 n.2 (filed Feb. 3, 2003) (AT&T Feb. 3, 2003 Lawson *Ex Parte* Letter) (citing AT&T Nov. 25, 2002 *Ex Parte* Letter indicating competitors can economically self-deploy at 3 DS3s worth of traffic).

[949] Indeed, we note that competitive carriers do not have an incentive to volunteer such information in our record. The record does provide sufficient information to enable us to impose a limitation on the number of DS3 unbundled loops that a requesting carrier can obtain to any single customer location. *See infra* para. 324.

[950] *See* AT&T Comments at 150 n.110 (citing confidential information that indicates that some of its DS3 level loop capacity is obtained from non-incumbent LEC sources).

authority to collect and analyze more specific evidence of DS3 loop deployment on a customer location-specific basis, applying uniform national triggers that measure self-provisioning or wholesale alternative availability to determine customer locations where competitive carriers are not impaired without access to incumbent LEC unbundled DS3s.[951]

322. If, as the incumbent LECs argue, "a small number of buildings in each metropolitan area typically account for a large fraction of the traffic,"[952] we expect that the triggers that we adopt today will provide incumbent LECs substantial relief from their unbundling obligations while simultaneously ensuring that competitive carriers get unbundled high-capacity loop access only where they are unable to economically self-deploy or use alternative facilities.[953]

323. In finding that competitive carriers are impaired without unbundled access to DS3 loops, we disagree with incumbent LECs' claims that market evidence of DS3 deployment in certain situations demonstrates that, in *all* situations, traffic and revenue potential justify a nationwide finding of DS3 non-impairment. The limited record evidence we have of self-deployment does not permit such broad extrapolation.

324. *Limitation on Multiple Unbundled DS3 Loops*. Finally, consistent with our finding of no impairment at the OCn loop capacity level, and because the record confirms that it is economically possible to self-deploy at a three DS3 loop level to a particular customer location, we limit an incumbent LEC's unbundling obligation to a total of two DS3s per requesting carrier to any single customer location.[954] We find that as a carrier approaches customer demand for three DS3s of capacity at a particular customer location, it is feasible for that carrier to self-deploy its own high-capacity facilities. Our unbundled DS3 loop quantity

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[951] *See infra* Part VI.A.4.b.(ii)(d) (discussing in detail the state reviews on a customer-location specific basis applying the defined Self-Provisioning Trigger and Competitive Wholesale Facilities Trigger).

[952] *BOC UNE Rebuttal Report* at 45.

[953] One commenter indicates that 200 to 300 out of 15,000 multiunit premises in a typical Tier-I MSA generate 80% of the data revenues. *Id.* Verizon indicates a Tier I MSA is typically defined as an MSA with a population of one million or more. *See* Verizon Jan. 31, 2003 Special Access *Ex Parte* Letter at 13 n.62.

[954] We note that our unbundled DS3 loop cap is smaller than the unbundled DS3 transport cap. *See infra* Part VI.C.4.c.(ii). The unbundled DS3 loop cap is based on record evidence indicating the feasibility of DS3 loop self-deployment at a 3 DS3 level. Indeed, AT&T's record evidence indicates economic feasibility at about 2.75 DS3s or 77 DS1s worth of traffic. *See* AT&T Jan. 14, 2003 *Ex Parte* Letter at 4 (citing AT&T Nov. 25, 2002 *Ex Parte* Letter, Attach. B). Once a competitive carrier's customer demand at a location exceeds 2 DS3 loops, the competitive carrier should plan to self-deploy DS3 capacity to that customer location. The record evidence for the self-provisioning feasibility level for DS3 transport varies, but because it generally is within a higher range than for DS3 loops, establishing the DS3 transport limit at a higher number is appropriate.

limit is location specific, maintaining consistency with our impairment conclusions about OCn capacity loop deployment,[955] as well as DS3 loop deployment.

(iv) DS1 Loops

325. We find that requesting carriers generally are impaired without access to unbundled DS1 loops.[956] The record contains little evidence of competitive LECs' ability to self-deploy single DS1 capacity loops[957] and scant evidence of wholesale alternatives for serving customers at the DS1 level.[958] Commenters expressly state that a competitive carrier would not construct its own DS1 or lower capacity loops.[959] Indeed, incumbent LECs recognize a distinction between provisioning DS1 level loops and other higher capacity loops.[960] The record shows that requesting carriers seeking to serve DS1 enterprise customers face extremely high economic and operational barriers in deploying DS1 loops to serve these customers.[961]

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[955] We have noted that the lowest common OCn capacity standard, OC3, is equivalent to three DS3 circuits in terms of capacity. *See supra* note 931.

[956] DS1 loops will be available to requesting carriers, without limitation, regardless of the technology used to provide such loops, *e.g.*, two-wire and four-wire HDSL or SHDSL, fiber optics, or radio, used by the incumbent LEC to provision such loops and regardless of the customer for which the requesting carrier will serve unless otherwise specifically indicated. *See supra* Part VI.A.4.a.(v) (discussing FTTH). The unbundling obligation associated with DS1 loops is in no way limited by the rules we adopt today with respect to hybrid loops typically used to serve mass market customers. *See supra* Part VI.A.4.a.(v)(b)(i).

[957] We note that at least two competitive LECs have provided evidence that indicates that they self-provide some DS1 capacity loops to certain customer locations. *See supra* note 859. It is important to note, however, that this evidence of self-provisioning has been possible where that same carrier is already self-provisioning OCn or a 3 DS3 level of loop capacity to that same customer location. Thus, this evidence does not support the ability to self-deploy stand-alone DS1 capacity loops nor does it impact our DS1 impairment finding. *See* AT&T Comments at 150 n.10 (citing confidential information); WorldCom Slocum Decl. at paras. 3-6.

[958] *See* Covad Reply at 56 (discussing no alternative DS1 capacity providers); NewSouth Comments at 13-17; NewSouth Reply at 17; WorldCom Comments at 74; AT&T Jan. 14, 2003 *Ex Parte* Letter at 2; WorldCom Oct. 30, 2002 *Ex Parte* Letter; AT&T Feb. 3, 2003 Lawson *Ex Parte* Letter at 13. The record indicates that even competitive carriers that have deployed their own loop facilities do not have the back office support systems in place that are necessary to offer any excess capacity on a wholesale basis to other competitive LECs. *See, e.g.*, KMC Duke Aff at para. 13 (discussing what systems are necessary to wholesale service to other carriers).

[959] *See* AT&T Jan. 14, 2003 *Ex Parte* Letter at 3 n.5; Covad Comments at 47; Allegiance Reply at 38.

[960] SBC Comments at 100-01; SBC Reply at 156 (recognizing that impairment may exist for certain DS1 loops and proposing a carve-out).

[961] *See supra* Part VI.A.4.b.(ii)(a) for a discussion of the economic and operational barriers to DS1 loop capacity deployment. The record indicates that many competitive carriers providing DS1 capacity loops to enterprise market customers serve the small to medium-sized segment of this market which is characterized as typically underserved by incumbent LECs. Indeed, many of these competitive LECs, which are themselves small to medium size businesses, have entered the competitive telecommunications market specifically to serve these smaller business customers requiring primarily DS1 level capacity. The DS1 loop unbundling rule we adopt today recognizes the dependency that smaller business customers and carriers have on DS1 capacity loops and accommodates those (continued….)

Customers demanding services over DS1 loops possess significantly different economic characteristics for competitive carriers than large enterprise market customers. In particular, small and medium enterprise customers served by DS1 loops provide much lower revenue opportunities than large enterprise market customers and, generally, resist long-term contract obligations.[962] These factors lead to a greater potential to change providers on a more frequent basis, *i.e.*, churn, resulting in the inability of competitive LECs to rely on a long-term DS1 revenue stream, as they can with much higher loop capacity demands. Taken together, these factors make it economically infeasible for competitive LECs to deploy DS1 loops, which require the same significant sunk and fixed construction costs as higher capacity loops.

326. While DS1 loops are typically used to serve small to medium-sized business customers associated with the enterprise market, they are also used to serve customers associated with the mass market. Although we recognize different characteristics between these two markets, *e.g.*, enterprise customers are more concentrated in urban locations, in multiunit premises, and demand greater variety and higher quality services than mass market customers, the economics of constructing DS1 loop facilities to serve these different customer classes are not significantly different. The average revenue available per customer in either of these markets is very low relative to larger enterprise market customers using higher capacity loops.[963] While we recognize that retail business customer rates are typically higher than residential rates, the record reflects that the revenues generated from small and medium enterprise customers are not sufficient to make self-deploying DS1 loops economically feasible from a cost recovery perspective.[964] As we have stated, our impairment findings rely most heavily on the economic feasibility of competitive LECs to self-deploy and recover sunk costs.[965] Competitive LECs do not have the ability to recover sunk costs in self-deploying DS1 loops. Furthermore, the other economic and operational barriers faced by competitive LECs in self-deploying loops generally, *e.g.*, the inability to obtain reasonable and timely access to the customer's premises both in laying the fiber to the location and bringing it into a building thereafter,[966] as well as convincing customers to accept the delays and uncertainty associated with deployment of alternative loop

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needs consistent with our impairment framework. *See also* NuVox Cadieux Jan. 24, 2003 *Ex Parte* Aff. (for general discussion of serving small to medium business customers with DS1 capacity); NuVox *et al.* Comments, attached Profiles & Affidavits; Covad Reply at 54; NewSouth Reply at 16-17; Allegiance Reply at 36-38.

[962] *See, e.g.*, NewSouth Reply at 18 (discussing the lower traffic volumes and revenue potential that can be generated from a DS1); *see also* TDS Jackson Aff. at para. 10.

[963] This fact can be most easily demonstrated by simply comparing voice-grade line equivalents, *i.e.*, a single DS1 is equivalent to 24 voice-grade lines whereas 3 DS3s (the number of DS3 capacity loops where self-provisioning begins to be economically feasible) is equivalent to 2016 voice-grade equivalents.

[964] *See supra* note 962.

[965] *See supra* para. 206.

[966] *See, e.g.*, AT&T Reply at 174-79; ALTS *et al*. Comments at 56 (discussing, generally, some of the other barriers competitive LECs face to self-deployment).

facilities exist with DS1 loop self-deployment.[967] Indeed, because the ability to absorb the additional "costs" associated with these other economic and operational barriers over time becomes increasingly more difficult at lower loop capacity levels, these barriers impact the ability to self-deploy at a DS1 level to an even greater extent than at higher loop capacity levels.[968]

327. Because the record does not demonstrate that carriers can economically self-provision at the DS1 level, we do not delegate to the states the authority to consider DS1 loop impairment on a location-specific basis based on a self-provisioning trigger.[969] On the other hand, although the record indicates little evidence of wholesale alternative DS1 loop capacity, evidence of alternative providers at the DS3 and higher capacity levels suggests that there may be specific locations where competitive carriers have deployed fiber and could offer excess capacity at the DS1 loop level. Thus, we recognize the possibility that non-incumbent LEC DS1 loop alternatives may be available now or in the near future at particular customer locations. As explained below, we delegate to the states the authority to collect and analyze more specific evidence of wholesale alternatives to DS1 loops on a customer location-specific basis, applying a uniform national trigger that measures the availability of wholesale competitive alternatives to determine customer locations where competitive carriers are not impaired without access to incumbent LEC unbundled DS1s.[970]

(d) Location-Specific Review Conducted By States Applying Federal Triggers

328. In making affirmative impairment findings on a nationwide basis for dark fiber loops, DS3 loops, and DS1 loops, we recognize that limited alternative deployment has occurred at particular customer locations not specified in our record for certain of these high-capacity loop types which could lead to a finding of no impairment for that loop type at that location. Thus, for these loop types, a more granular impairment analysis should be applied on a customer-by-customer location basis. To that end, we delegate to states a fact-finding role to identify where competing carriers are not impaired without unbundled high-capacity loops pursuant to two triggers. If a state commission finds that the federal triggers for a finding of non-impairment have been satisfied for a specific type of high-capacity loop at a particular customer location, the incumbent LEC will no longer be required to unbundle that loop type at that location according to the transition schedule adopted by the state commission.[971] Incumbent LECs must make the

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967 *See supra* Part VI.A.3., Part VI.A.4.b(ii)(a) for evidence of the existence of the other operational barriers to DS1 loop capacity deployment.

968 *See supra* para. 315 (discussing the ability to absorb these costs at the OCn loop level).

969 *See infra* Part VI.A.4.b(ii)(d) (discussing in detail the state reviews on a customer-location specific basis) and para. 334 (describing why states will not apply the Self-Provisioning Trigger to DS1).

970 *See infra* Part VI.A.4.b(ii)(d) (discussing in detail the Competitive Wholesale Facilities Trigger).

971 *See infra* Part VIII.D (discussing the transition process).

unbundled high-capacity loops for which we find impairment on a nationwide basis available to qualifying requesting carriers except at those customer locations where a state commission's granular review has confirmed that no impairment exists and unbundling is no longer required. In the event a state commission declines to exercise the authority we delegate to it, a party may petition this Commission to conduct such analysis.[972]

329. We establish two different types of triggers to identify the specific customer locations where there may be no impairment for the high-capacity loops we identify below and the incumbent LEC unbundling obligation can be eliminated at that customer location: 1) where a specific customer location is identified as being currently served by two or more unaffiliated competitive LECs with their own loop transmission facilities at the relevant loop capacity level (Self-Provisioning Trigger); or 2) where two or more unaffiliated competitive providers have deployed transmission facilities to the location and are offering alternative loop facilities to competitive LECs on a wholesale basis at the same capacity level (Competitive Wholesale Facilities Trigger). Although both triggers focus on whether there are two alternative loop providers at a particular customer location, they are different because the Competitive Wholesale Facilities Trigger can be satisfied by alternative loop providers that have deployed their own facilities *or* by alternative providers that are using unbundled network elements but otherwise satisfy the "wholesaling" requirement of the Competitive Wholesale Facilities Trigger. For example, unbundled dark fiber loops obtained from the incumbent LEC and activated by the alternative provider through attaching its own optronics to offer wholesale "lit" loop capacity may be used to satisfy the Competitive Wholesale Facilities Trigger to remove the unbundling obligation for DS3 and DS1 loops at a particular customer location. Unbundled dark fiber loops, however, may not be used to satisfy the Self-Provisioning Trigger. It is possible, however, that the Self-Provisioning Trigger could, in some circumstances, overlap with the Competitive Wholesale Facilities Trigger. On the other hand, the Competitive Wholesale Facilities Trigger will capture loop alternatives even where barriers have prevented competitive LECs from entirely deploying their own facilities[973] These triggers, tailored to respond to specific record evidence demonstrating that self-deployment is economically feasible or competitive alternatives are available at particular customer locations, will identify those locations where a more granular analysis is required to overcome the finding of impairment.[974]

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[972] *See supra* Part V.E.2 (discussing the role of the states).

[973] *See infra* paras. 333, 340. Thus, while a particular customer location may not satisfy the Self-Provisioning trigger because one or both of the alternative providers "lights" unbundled dark fiber to self-provide loops to customers at that location, these providers could satisfy the Competitive Wholesale Facilities Trigger at that location to eliminate loop unbundling requirements.

[974] We establish the number of competitors to the incumbent LEC necessary to satisfy each trigger for high-capacity loops subject to a finding of impairment at two in order to ensure that multiple competitive entry at each location is feasible. *See USTA*, 290 F.3d at 427. Limiting our high-capacity loop triggers to only one competitor runs the risk of failing to accommodate unusual circumstances unique to that single provider that may not reflect the ability of other competitors to similarly deploy. Establishing a higher number, for example three, would likely render our high-capacity loop triggers meaningless for the many customer locations where the potential aggregate customer demand would never support more than two competitive alternatives to the incumbent LEC. Moreover, (continued….)

330. We establish the number of competitors to the incumbent LEC necessary to satisfy each trigger for high-capacity loops subject to a finding of impairment at two in order to ensure that multiple competitive entry at each location is feasible.[975] We choose a lower threshold for our high-capacity loops self-provisioning trigger than we did for the self-provisioning triggers for transport and switching (*i.e.*, two versus three) for two reasons. First, we are taking into consideration the more limited ability of the market to support multiple carriers providing their own loops to a particular location, compared to the demand available to support multiple carriers using their own self-provisioned transport and switching. Unlike both transport and switching, few customers can be served over a single loop facility, and the traffic of multiple customers is generally not aggregated over loops. Thus, establishing a higher number, for example three, would likely render our high-capacity loop triggers meaningless for the many customer locations where the potential aggregate customer demand would never support more than two facilities-based competitive alternatives to the incumbent LEC.[976] Second, we are concerned that this limited demand could provide a greater disincentive to build out any alternative loops if the trigger were set at three. The more limited demand for loops means that there is a lesser likelihood that a third competitive provider would build out to a particular location. This, in turn, creates a greater disincentive for the first and second providers to build out to the location, because if the trigger were set at three, they will likely have to compete against unbundled incumbent LEC loop facilities at TELRIC-based prices for a significant period of time.

331. We choose these specific triggers because we find that: (1) evidence of actual deployment indicates barriers to entry can be overcome; and (2) the availability of competitive wholesale alternatives eliminates impairment for competitive LECs. Eliminating unbundling obligations where no impairment exists furthers the goals of the Act by ensuring that the availability of unbundled network elements at cost-based rates does not discourage the deployment of facilities by competitive LECs where such deployment is economically feasible.

(i) Self-Provisioning Trigger

332. *Trigger Defined*. Where two or more competitive LECs have self-provisioned loop transmission facilities, either intermodal[977]or intramodal facilities, to a particular customer

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establishing the trigger at too high a number could discourage competitive buildout because would-be competitive facilities-based providers would know that two additional competitors would have to first deploy their own facilities before unbundled loop facilities at TELRIC-based prices would no longer be available at that location.

[975] *See USTA*, 290 F.3d at 427.

[976] Moreover, limiting our high-capacity loop triggers to only one competitor runs the risk of failing to accommodate unusual circumstances unique to that single provider that may not reflect the ability of other competitors to similarly deploy.

[977] *See supra* Part V.B.1.d.(ii) (describing intermodal alternatives generally, and factors affecting differences in the extent to which various intermodal alternatives are considered); Part VI.A.3. *supra* (describing how intermodal alternatives are considered for loops generally); paras. 308-309 *supra* (describing how intermodal alternatives are considered for enterprise market loops).

location at the loop capacity level for which the state impairment analysis is being conducted, competitive LECs are not impaired without access to unbundled incumbent LEC loops at that capacity level at those particular customer locations.[978] This determination involves a finding that there are two competitive LECs that have existing facilities in place serving customers at that location over the relevant loop capacity level.[979] If the state commission makes a finding of no impairment based on the application of the Self-Provisioning Trigger, it is not necessary to separately apply the Competitive Wholesale Facilities Trigger.

333. *Trigger Applied*. In conducting its proceeding with respect to the Self-Provisioning Trigger, the state commission must verify that the two competitive providers identified to satisfy this trigger are unaffiliated with the incumbent LEC and each other.[980] In addition, the facilities these competitors use must be their *own facilities* and not facilities owned or controlled by one of the other two providers to the premises, *i.e.*, the incumbent LEC and the other competitive provider. To be clear, a competitive LEC using the special access facilities of the incumbent LEC or the transmission facilities of the other competitive provider in the building would *not* satisfy the definition of a self-provisioning competitor for purposes of satisfying the trigger. We find, however, that when a competitive carrier has obtained dark fiber on a long-term indefeasible-right-of-use (IRU) basis, that dark fiber facility can be counted as a separate, unaffiliated facility for self-provisioning determination purposes.[981]

334. *Special Considerations For Dark Fiber and DS1 Loops.* When applying the Self-Provisioning Trigger to eliminate an incumbent LEC's requirement to unbundle dark fiber loops at a particular customer location, the mere existence of two unaffiliated competitive providers (in addition to the incumbent LEC) that have deployed fiber to that location, *whether or not they are offering dark fiber to other carriers to serve end-user customers at that location*, will satisfy the

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[978] If two or more competitive LECs have been able to economically self-deploy at a particular location at the loop capacity level being considered by the state, based on information contained in the record, we determine that the barriers to self-deployment at that customer location for that loop capacity level are likely able to be similarly overcome by other competitive entrants.

[979] For example in applying the Self-Provisioning Trigger to DS3 loops, the state commission must determine that two or more competitive LECs provide DS3 loops *over their own facilities* to customers at that particular customer location.

[980] We use the term affiliated and affiliate as the Act defines "affiliate." Section 3 of the Act defines the term "affiliate" as "a person that (directly or indirectly) owns or controls, is owned or controlled by, or is under common ownership or control with, another person. For purposes of this paragraph, the term 'own' means to own an equity interest (or the equivalent thereof) of more than 10 percent." 47 U.S.C. § 153(1).

[981] For purposes of the "own facilities" prong of the Self-Provisioning Trigger, a competitive carrier that has obtained dark fiber transmission facilities from the incumbent LEC on a long-term IRU basis will be considered to operate its own unaffiliated facilities. We believe that dark fiber IRU type contracts protect against short-term gaming by the incumbent LEC. Moreover, we do not want to foreclose incumbent LECs from negotiating long term dark fiber leases with competitive LECs. To be clear, however, because we want to be certain of the independent ownership of the loop transmission facilities, we find that loop transmission facilities transferred on an IRU basis is limited only to dark fiber and does not include "lit" fiber IRUs obtained from the incumbent LEC or the other provider.

Self-Provisioning Trigger for dark fiber loops and require a finding of no impairment at that location. Therefore, we do not apply a wholesale trigger to unbundled dark fiber loops because such trigger would necessarily overlap with the Self-Provisioning Trigger.[982] Because there is little record evidence demonstrating that carriers construct facilities to serve customers exclusively at the DS1 level, as well as the lack of economic evidence showing such self-deployment is possible, the Self-Provisioning Trigger *will not* be applied to DS1 loops.

335. *State Analytical Flexibility*. In applying the Self-Provisioning Trigger to high-capacity loops, we find that actual competitive deployment is the best indicator that requesting carriers are not impaired, and therefore emphasize that this quantitative trigger is the primary vehicle through which non-impairment findings will be made. We recognize, however, that this high-capacity loop trigger measures only the existence of *actual* deployed competitive alternatives at a customer location rather than whether that particular customer location *could* be economically served by competitive carriers through deployment of alternative loop transmission facilities. Thus, when conducting its customer location specific analyses, a state must consider and may also find no impairment at a particular customer location even when this trigger has not been facially met *if* the state commission finds that no material economic or operational barriers at a customer location preclude competitive LECs from economically deploying loop transmission facilities to that particular customer location at the relevant loop capacity level. In making a determination that competitive LECs *could* economically deploy loop transmission facilities at that location at the relevant capacity level, the state commission must consider various factors affecting the ability to economically deploy at that particular customer location. These factors include: evidence of alternative loop deployment at that location; local engineering costs of building and utilizing transmission facilities; the cost of underground or aerial laying of fiber or copper; the cost of equipment needed for transmission; installation and other necessary costs involved in setting up service; local topography such as hills and rivers; availability of reasonable access to rights-of-way; building access restrictions/costs; availability/feasibility of similar quality/reliability alternative transmission technologies at that particular location.

336. In other circumstances, by contrast, state commissions may believe notwithstanding satisfaction of this trigger for a particular customer location, that continued access to unbundled loops at the capacity level under analysis should be maintained at the customer location because impairment, in fact, remains due to the existence of a barrier to further competitive facilities deployment at that location. An example of such a situation might be where a municipality has imposed a long-term moratorium on granting additional rights-of way permits along the routes necessary to serve the particular customer location.[983] In these circumstances, a state commission may file a petition for waiver with the Commission to

[982] Because dark fiber loops are not typically retail offerings like "lit" loops, it is necessary to modify somewhat the application of the Self-Provisioning Trigger for dark fiber loops to ensure that the granular state analyses include all those locations where at least two alternative carriers to the incumbent LEC have deployed fiber.

[983] This example is provided for illustrative purposes only and is not meant to be exclusive or dispositive.

maintain the incumbent LEC's unbundling obligation at that location until the barrier identified in the waiver petition no longer exists.

(ii) Competitive Wholesale Facilities Trigger

337. *Trigger Defined*. Where competitive LECs have two alternative choices (apart from the incumbent LEC's network) to purchase wholesale high-capacity loops, including intermodal alternatives, at a particular premises, we conclude that impairment does not exist at that location for that type of high-capacity loop.[984] Specifically, where the relevant state commission determines that two or more unaffiliated alternative providers, including alternative transmission technology providers that offer an equivalent wholesale loop product at a comparable level of capacity, quality, and reliability, have access to the entire multiunit customer premises, and offer the specific type of high-capacity loop over their own facilities on a widely available wholesale basis to other carriers desiring to serve customers at that location, then incumbent LEC loops at the same loop capacity level serving that particular building will no longer be unbundled.[985] Similar to including dark fiber IRUs as facilities that satisfy the "own facilities" prong of the Self-Provisioning Trigger,[986] dark fiber IRUs also satisfy the "own facilities" prong of the Competitive Wholesale Facilities Trigger. Furthermore, in addition to dark fiber IRUs, we also include the use of dark fiber obtained on any other lease/purchase basis, *including obtaining it from the incumbent LEC on an unbundled basis*,[987] as long as the alternative provider has attached its own optronics to "light" the dark fiber in order to make "lit" fiber loops available to competitive LECs on a wholesale basis.[988]

338. *Trigger Applied*. In evaluating the two competitive wholesale loop providers, states should not undertake a financial viability analysis with respect to each provider. However,

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[984] For example, in applying the Competitive Wholesale Facilities Trigger to DS3 loops, the state must find that two alternative providers to the incumbent LEC offer wholesale DS3 loops to competitive LECs at that particular customer location.

[985] While the record indicates little evidence of wholesale DS1 loop capacity presently, evidence of some alternative providers at the DS3 and higher capacity levels suggests that there may be specific locations where competitive carriers have deployed fiber and might offer unused capacity at the DS1 loop level. Because we expect our loop unbundling rules to encourage greater facilities-based deployment where it is economically feasible, it is not unreasonable to accommodate the possibility that non-incumbent LEC DS1 loop alternatives may be available now or in the near future at particular customer locations. By accommodating this possibility in the trigger mechanism we craft today, we seek to ensure that our DS1 loop unbundling rules are not in conflict with *USTA*.

[986] S*ee supra* note 981.

[987] By counting wholesale loop offerings over dark fiber UNEs, an incumbent LEC could be relieved of its unbundling obligation at a specific loop capacity level at certain customer locations even where no other "alternative" fiber has been deployed, but where alternatives to incumbent LEC unbundled "lit" loops are nevertheless available.

[988] Similarly, as we determine in our dark fiber transport requirements, when applying this trigger to dark fiber loop impairment, the state may ensure that dark fiber wholesalers have sufficient quantity of dark fiber available. *See infra* para. 416.

there should be some reasonable expectation that these providers are operationally capable of continuing to provide wholesale loop capacity to that customer location.[989] We recognize that, while the record indicates that there are presently a limited number of alternative wholesale loop providers serving multiunit premises, we anticipate that a competitive wholesale market will continue to develop, particularly where competitive LECs have already deployed fiber and seek to derive revenue from excess capacity. We expect this granular trigger to encourage alternative high-capacity transmission providers to deploy more facilities and offer them on a wholesale basis, creating a more robust competitive market for high-capacity loop facilities to many areas nationwide.

(iii) State Action Under Both Triggers

339. We expect states to complete their initial reviews applying the triggers and other analysis discussed above within nine months from the effective date of this Order. Unbundled DS1, DS3, and dark fiber loops will remain available to all customer locations until the state commission determines that unbundled loops at particular capacities serving specific customer locations are no longer required. States that conduct this review need only address specific customer locations for which there is relevant evidence in the proceeding that the customer location satisfies one of the triggers or the potential deployment analysis specified in this Part.[990] To the extent that a state commission does not complete its proceedings in this nine month period,[991] aggrieved parties may file a petition with this Commission demonstrating a state's failure to act pursuant to the procedures we outline today.[992] We expect that states will require an appropriate period for competitive LECs to transition from any unbundled loops that the state finds should no longer be unbundled.

340. After completion of their initial reviews, we expect state commissions to conduct further granular reviews, pursuant to the procedures the state commissions adopt, to identify additional customer locations that satisfy the triggers. Such proceedings shall be completed

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[989] We note that carriers operating under chapter 11 bankruptcy are still capable of providing service while they reorganize their operations. Relatedly, in the case of a chapter 7 liquidation, the physical transmission facility assets of a competitive provider will continue to exist at that location as the purchaser of those assets will likely provide similar wholesale service or use such facilities to self-provide retail service. Under either scenario, the triggers which resulted in a finding of no impairment at that location will continue to be met. *See infra* Part VI.C.4. (discussing similar financial viability issues with respect to wholesale transport providers).

[990] *See supra* para. 335.

[991] By "complete," we mean that a state commission, upon receiving sufficient evidence, has an affirmative obligation to review the relevant evidence associated with any customer location submitted by an interested party, and to apply the trigger and any other analysis specified in this Part to such evidence.

[992] As discussed above, if a state fails to act, we set forth procedures for the Commission to step into the role of the state. *See supra* Part V.E. (discussing the role of the states).

within six months of the filing of a petition or other pleading submitted in accordance with the prescribed state commission procedures.[993]

(e) Other Loop Unbundling Proposals.

341. Commenters have proposed various alternatives to the method we have adopted herein for conducting our loop impairment analysis and reaching our resulting conclusions. To the extent the methods we use and the conclusions we reach differ from those proposed, we expressly decline to incorporate them herein. We note, however, that we agree with the proposals of SBC and other commenters that the Commission distinguish among loop types and make capacity-based distinctions. The analysis we have undertaken has, indeed, distinguished not only among the various loop capacities, *e.g.*, DS0, DS3, OCn, but also the type of loop technology where appropriate, *e.g.*, "lit" fiber, dark fiber, copper, as well as the customer market class typically served by such loops. Through our approach, we recognize the different economic characteristics of serving customers demanding services provided over different loop capacity levels, eliminating or limiting unbundling obligations accordingly.[994] We disagree with SBC,[995] Verizon,[996] and BellSouth[997] to the extent each proposes that we base our loop unbundling analyses and conclusions consistent with our special access pricing flexibility rules.[998] Evidence of competitive LECs' ability to self-deploy local loop facilities or have wholesale non-incumbent LEC alternative loop facilities available to them is the proper inquiry in our loop impairment analysis. This analysis serves a host of statutory goals beyond the goal of the *Pricing Flexibility*

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[993] Subsequent to the initial review, states have the flexibility to adopt reasonable and timely procedures for the periodic collection and evaluation of evidence indicating the satisfaction of the loop triggers at additional customer locations to remove unbundling obligations. For example, a state may decide to include self-reporting information regarding alternative loop deployment in an annual or semi-annual report, either as an independent obligation or as part of the competitive carriers' periodic filing obligations. Alternatively, a state may decide to accept evidence of alternative deployment through petitions filed during prescribed filing windows or through rulemaking proceedings. Regardless of the procedures adopted, however, states that conduct further reviews must complete their evaluation of the evidence and reach a determination within six months of the filing of a petition or other pleading filed pursuant to the state procedures.

[994] As we have noted above, we expect that the triggers that we adopt today for use by the states will provide incumbent LECs substantial relief from their unbundling obligations while simultaneously ensuring that competitive carriers get unbundled high-capacity loop access only where they are unable to economically self-deploy or use alternative facilities. *See supra* para. 322.

[995] *See, e.g.*, SBC Comments at 101 (proposing a DS1 trigger at two or more fiber-based collocators, serving 15,000+ business lines, and $150,000 or more per month in special access revenues and no unbundling at all above the DS1 level).

[996] *See, e.g.*, Verizon Comments at 119-20 (proposing, generally, the elimination of high-capacity loop unbundling where the incumbent LEC has obtained pricing flexibility for special access circuits).

[997] *See, e.g.*, BellSouth Comments at 67 n.240 (stating it makes no sense to find impairment where BellSouth has obtained pricing flexibility for special access circuits).

[998] *See Pricing Flexibility Order*, 14 FCC Rcd at 14221.

Order, which is limited to protecting consumers from anticompetitive pricing. While each of these pricing flexibility proposals vary somewhat, they are consistent in arguing that wherever and whenever incumbent LECs have received pricing flexibility for special access services, unbundled high-capacity loops, to some degree, should not be required.[999] Incumbent LECs have received special access pricing flexibility in numerous MSAs throughout their regions, based almost exclusively on meeting the *Pricing Flexibility Order's* triggers based on special access revenues.[1000] As we note below in our transport unbundling analysis, because the special access revenue triggers require only a single collocated competitor to purchase substantial amounts of special access in a concentrated area, this test provides little, if any, indication that even that competitor has been able to widely, if at all, self-deploy alternative loop facilities in that area.[1001] Evidence of self-deployment of transport facilities is not necessarily evidence of the economic ability of a competitive LEC to self-deploy loops. Moreover, the presence of a single competitive LEC's collocated transport facility as a trigger for purposes of protecting consumers from anticompetitive pricing, *i.e.*, the purpose of our pricing flexibility rules, is not sufficient evidence that facilities-based competitive entry into a market at the local loop level is economically feasible. Under a special access pricing flexibility trigger, such as suggested by incumbent LECs, DS1 loops would no longer be unbundled in many large geographic areas nationwide. This conclusion would clearly contravene our unbundling mandate due to the pervasive competitive LEC impairment at the DS1 loop level resulting from an economic inability to self-deploy and limited available wholesale alternatives. Similarly, we reject geographic zone distinctions for analyzing impairment for high-capacity local loops.[1002] Like we find in rejecting a pricing flexibility approach, the record simply does not contain evidence that

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[999] Phase I pricing flexibility related to special access revenue is triggered on an MSA basis when wire centers accounting for at least 30% of (non-channel termination) special access revenues have at least one competitor that has collocated using non-incumbent transport. Phase II pricing flexibility related to special access revenues is triggered on an MSA basis when wire centers accounting for at least 65% of (non-channel termination) special access revenues have at least one competitor that has collocated using non-incumbent transport.

[1000] *See* Letter from Jake E. Jennings, NewSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98 at 2 (filed Dec. 12, 2002) (NewSouth Dec. 12, 2002 *Ex Parte* Letter) (describing details of where and how BellSouth has received special access pricing flexibility); *see also* BellSouth Oct. 15, 2002 Transport and Loop *Ex Parte* Letter, Attach. at 5 (stating that BellSouth has received Phase I and Phase II special access pricing flexibility in 100% of its national top 150 MSAs); Verizon Dec. 17, 2002 *Ex Parte* Letter at 7 (stating that Verizon has pricing flexibility in 37% of its wire centers); Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 5 (filed Oct. 11, 2002) (Qwest Oct. 11, 2002 Transport *Ex Parte* Letter) (stating that Qwest has been granted pricing flexibility in 33 of its 45 MSAs, many of which are not national top 100 MSAs).

[1001] Covad Reply at 57-58 (arguing SBC's proposal of two or more fiber-based collocators is no indication that competitive networks serve any more than a limited number of buildings in the area, much less the wire center's entire service area).

[1002] Incumbent LECs argue that the Commission should consider geographic distinctions, such as MSAs or even individual wire centers, for some or all UNEs, where there are differing levels of alternatives. *See*, *e.g.*, BellSouth Reply at 11-12 (arguing that the appropriate geographic market for the impairment analysis is the MSA). Competitive carriers, however, argue that there is no geographic area or market anywhere in the United States today where a geographic consideration would find no-impairment for any UNE. *See, e.g.*, NuVox *et al*. Comments at 53.

loop impairment/non-impairment determinations can be appropriately made on a zone basis due to the location-specific factors which impact impairment determinations at most high-capacity loop levels.

342. Finally, several commenters argue that the Commission should remove or modify its unbundling obligations for incumbent LECs based on evidence of adequate incumbent LEC performance in provisioning network elements.[1003] These parties argue that incumbent LECs should be required to demonstrate certain levels of compliance with existing unbundling performance measurements, such as section 271 performance metrics, for a commercially reasonable period of time prior to any removal of an unbundling obligation.[1004] Commenters suggest such a rule would provide incentives to incumbent LECs to comply with their performance obligations.[1005] The record, however, does not reveal that incumbent LEC performance has a significant, if any, direct relationship to the ability of competitive LECs to economically self-deploy local loops. Rather, the record demonstrates that competitive LEC deployment is primarily driven by general economic considerations. While these economic considerations are influenced by factors which the incumbent LEC did not, or does not, similarly face, *i.e.*, its historical ability to maximize scale economies and benefit from first–mover advantages, these factors are not so related to performance measurement compliance that consideration of such compliance would inform our impairment analysis.

B. Subloops For Multiunit Premises Access and NIDs

1. Background

343. In the *Triennial Review NPRM*,[1006] the Commission sought comment on whether it should maintain unbundling requirements for subloops[1007] and NIDs.[1008] A subloop is a smaller

[1003] *See, e.g.*, CompTel Comments at 86-87; NARUC Comments at 10.

[1004] *See, e.g.*, CompTel Comments at 86-87; Maine CLEC Coalition Comments at 5-7; *see also* Pennsylvania Commissioner Wilson Comments at 8 (arguing that although the Commission should not remove unbundling obligations based on UNE or special access performance data, the states should have the authority to do so).

[1005] *Id.*

[1006] *Triennial Review NPRM*, 16 FCC Rcd at 22803, para. 48.

[1007] Subloops were first included in the list of specific UNEs in the *UNE Remand Order* as a means of providing competitive carriers "maximum flexibility to interconnect their own facilities" to various accessible points within the incumbent LEC's outside loop plant closer to a customer's premises. Subloops were defined as "any portion of the loop that is technically feasible to access at terminals in the incumbent LEC's outside plant, including inside wire." *UNE Remand Order*, 15 FCC Rcd at 3801, para. 234; *see also* 47 C.F.R. § 51.319(a)(2).

[1008] NIDs were included in the initial set of UNEs and defined as "a cross-connect device used to connect loop facilities to inside wiring." *Local Competition Order*, 11 FCC Rcd at 15697, para. 392. The Commission later modified the definition of a NID to be more flexible and technology neutral, recognizing that its rules enabled methods other than just a cross-connect device for interconnecting customer premises wiring with the incumbent LEC's loop distribution plant. *UNE Remand Order*, 15 FCC Rcd at 3790, para. 207; *see also* 47 C.F.R. § 51.319(b).

included segment of an incumbent LEC's local loop plant, *i.e.*, a portion of the loop from some technically accessible terminal beyond the incumbent LEC's central office[1009] and the network demarcation point,[1010] including that portion of the loop, if any, which the incumbent LEC owns and controls inside the customer premises.[1011] The Commission's rules permit the demarcation point of the incumbent LEC's network at a customer's premises to vary depending on the type of premises, *i.e.*, single unit or multiunit, and the date the premises was built.[1012] A competitor purchasing a subloop from an incumbent LEC to serve a particular customer location will access the incumbent LEC's loop along its distribution path at a technically feasible accessible terminal,[1013] generally, outside of the incumbent LEC's central office. These access points include, but are not limited to, a feeder distribution interface (FDI);[1014] a pole or pedestal;[1015] the MPOE;[1016] or the NID.[1017] The technically feasible points where subloops can be accessed can be further categorized as local loop plant consisting of customer premises wiring owned by the incumbent LEC as far as the point of demarcation (the "inside wire" subloop),[1018] and other portions of the loop from the central office to the point where the "inside wire" subloop begins.

[1009] *UNE Remand Order*, 15 FCC Rcd at 3789, para. 206; *see also* 47 C.F.R. § 51.319(a)(2).

[1010] 47 C.F.R. § 68.3; *see also Competitive Networks Order*, 15 FCC Rcd at 23007, para. 54.

[1011] *UNE Remand Order*, 15 FCC Rcd at 3791, para. 210; *see also* 47 C.F.R. § 51.319(a)(2)(i).

[1012] Section 68.105 of the rules govern the location of the incumbent LEC's point of demarcation. Specifically, in single unit premises the demarcation point is within 12 inches of the protector or, if no protector, within 12 inches of where the telephone wire enters the customer's premises. 47 C.F.R. § 68.105(c). For multiunit premises, depending on whether the premises existed prior to 1990 or was constructed thereafter, the incumbent LEC's demarcation point may be located at the MPOE or at some other point or points within the premises. *Id*. § 68.105(d). The MPOE is defined to be either the closest practicable point to where the wiring crosses a property line or the closest practicable point to where the wiring enters a multiunit building. *Id*. § 68.105(b). In multiunit premises where the demarcation point is not located at the MPOE, the incumbent LEC's network extends into the premises resulting in an inside wire subloop.

[1013] Accessible terminals contain cables and their respective wire pairs that terminate on screw posts which enables a competitor's technician to cross connect its terminal to the incumbent LEC's to access the incumbent LEC's loop from that point all the way to the end-user customer. *UNE Remand Order*, 15 FCC Rcd at 3789, para. 206 n.395.

[1014] The FDI is the point in the loop where the trunk line or "feeder" leading back to the incumbent LEC's central office, and the "distribution" plant branching out to the subscribers, meet, and interface. *UNE Remand Order*, 15 FCC Rcd at 3790, para. 206.

[1015] The pole or pedestal is near the customer premises and is the point where the "distribution" connects to the dedicated wire connecting the subscriber to the network. *UNE Remand Order*, 15 FCC Rcd at 3790, para. 206.

[1016] The MPOE is the closest practicable point to where the wiring crosses a property line or the closest practicable point to where the wiring enters a multiunit building. *See supra* note 1012.

[1017] At whatever point a subloop is accessed, requesting carriers gain access to the loop from that point up to, and including, the demarcation point of that loop. An incumbent LEC charge for that subloop should reflect a single rate up to the point of termination, including the NID if it is before or at the point of termination.

[1018] *See* 47 C.F.R. § 51.319(a)(2)(i).

In this section, we address only subloops for access to multiunit premises, including the "inside wire" subloops.[1019] Furthermore, because the incumbent LEC's network demarcation point may be located at the NID, before the NID or beyond the NID,[1020] which is always located at the customer's premises, it is appropriate to discuss the NID together with the "inside wire" subloop.[1021]

[1019] We consider other types of subloops in the context of our loop unbundling rules. *See supra* Part VI.A.4.a.(v).

[1020] *UNE Remand Order*, 15 FCC Rcd at 3774, para. 169.

[1021] In using the phrase "inside wire" to define a discrete subloop within the incumbent LEC's local loop, we are cognizant of the fact that prior to the addition of the subloop to the list of UNEs in 1999, the term "inside wire" generally was thought to refer only to that deregulated portion of wiring within an end-user customer's premises that connected the customer premises equipment (CPE) to the incumbent LEC's telephone network or other CPE and was not part of the incumbent LEC's regulated network, because it was located on the customer's side of the demarcation point. In the *UNE Remand Order*, the Commission recognized that its rules regarding the location of the demarcation point, particularly in multiunit buildings, resulted in situations where the incumbent LEC owned and controlled wire within a customer premises that did, indeed, remain part of the incumbent LEC's regulated network. The Commission referred to this wire as "inside wire" also. *See* 47 C.F.R. § 51.319(a)(2)(i). The *UNE Remand Order* made clear that this "inside wire" was not limited only to wire that was physically inside the premises but may be located out-of-doors for many multiunit premises, for example, as may be the case in a garden apartment or campus environment. *See UNE Remand Order*, 15 FCC Rcd at 3774, para. 170. Similarly, in the *UNE Remand Order*, we noted that our use of the phrase "customer premises" encompassed not just the actual premises of end-user subscribers, but also the premises of the property owner such as "a landlord, a condominium, a university and so on," *i.e.*, "customer premises" encompassed any premises where the owner of that premises has the right to designate the MPOE. *See* 47 C.F.R. § 68.105(b).

We acknowledge that our previous use of the phrase "inside wire" to describe three different scenarios involving premises wiring, *i.e.*, (1) the unregulated wire on the end-user side of the demarcation point; (2) the wiring from the MPOE up to the end-user customer suite that may be under the control of the premises owner when the incumbent LEC's demarcation point is located at the MPOE; and (3) the customer premises wire that extends beyond the MPOE to the demarcation point of the incumbent LEC's network that remains under the incumbent LEC's control if the premises owner has not exercised its right to have the demarcation point and the MPOE coincide, may cause some confusion as noted by BellSouth. *See* BellSouth Petition for Reconsideration and Clarification, CC Docket No. 96-98 at 1-4 (filed Feb. 17, 2000) (BellSouth Feb. 17, 2000 Petition for Reconsideration); BellSouth Comments at 76. For this reason, we will refer to the "inside wire" on the incumbent LEC network side of the demarcation point, *i.e.*, between the MPOE and the demarcation point as the Inside Wire Subloop. We decline to define this wiring as "intra-building network cabling" as requested by BellSouth, *see* BellSouth Feb. 17, 2000 Petition for Reconsideration at 3, as that definition, which is found in Part 32 of the rules and used for accounting purposes, potentially limits the definition of the "Inside Wire Subloop." Part 32 defines "intra-building network cable" as follows: "This account shall include the original cost of cables and wires located on the company's side of the demarcation point or standard network interface inside subscribers' buildings or between buildings on one customer's same premises. Intra-building network cables are used to distribute network access facilities to equipment rooms, cross-connection or other distribution points at which connection is made with customer premises wiring." 47 C.F.R. § 32.2426(a). While we deny BellSouth's request, we have addressed herein the potential confusion that may have previously arisen in using the phrase "inside wire" to describe different portions of the premises wiring by defining the wiring that remains part of the incumbent LEC's network at a multiunit premises as the Inside Wire Subloop. The rules we adopt today with respect to the Inside Wire Subloop are not intended to impact or otherwise modify any aspect of our existing rules regarding the inside wire on the non-network side of the (continued….)

344. In the *Local Competition Order*, the Commission declined to identify particular subloop elements as separate UNEs, because the record at that time did not sufficiently address the technical issues raised by the incumbent LECs as impediments to subloop unbundling.[1022] The Commission acknowledged that subloop unbundling could provide competitors flexibility in deploying portions of their own loop facilities and promised to revisit subloop unbundling at a later time.[1023] In the *UNE Remand Order*, however, the Commission determined that competitive LECs would be impaired without access to the incumbent LECs' subloops.[1024] The Commission found that access to subloops was likely to be the catalyst to the eventual deployment of competitive loops and without such access competitive LEC's would be discouraged from attempting to construct their own feeder facilities which, when combined with the incumbent LEC's distribution plant, would enable the competitor to serve customers with minimal reliance on the incumbent LEC.[1025] Specifically, subloop unbundling was adopted to redress three particular requesting carrier deployment impairments identified in the record at that time: 1) the need to interconnect with the incumbent LEC's network at or near customer premises to serve customers in multiunit premises; 2) the need to provide service to customers served by IDLC loops; and, 3) the need to access the copper portion of a loop to offer competitive xDSL service.[1026]

345. In ordering the unbundling of subloops, the Commission gave particular attention to unbundled inside wire subloops, specifically recognizing the impairments associated with facilities-based entry in multiunit buildings or campus environments.[1027] Indeed, the inside wire subloop was the only subloop for which the Commission devoted a separate subsection of its subloop rules.[1028] The Commission concluded that "requiring competitive LECs to convince landlords and customers to permit construction of redundant inside wiring would substantially impede market entry and competition."[1029] In addition, it found that lack of access to the inside

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demarcation point, either inside the subscriber's suite or under the control of the premises owner as set forth in sections 68.100 *et seq*. *Id*. § 68.100 *et seq.*

[1022] *Local Competition Order*, 11 FCC Rcd at 15695-96, paras. 390-91.

[1023] *Id.* at 15696, para. 391.

[1024] *UNE Remand Order*, 15 FCC Rcd at 3789, para. 205.

[1025] *Id.*

[1026] *See id.* at 3792-95, paras. 215-18.

[1027] *See id.* at 3793, para. 216.

[1028] *See* 47 C.F.R. § 51.319(a)(2)(i). When the first Inside Wire Subloop rules were adopted in 1999, the Commission had commenced a related rulemaking proceeding, the *Competitive Networks* proceeding, to address, generally, barriers, including access to all types of customer premises wiring, which competitive LECs faced in gaining access to end-user customers in multiunit buildings or other environments where the premises occupied by the end-user customer was in a building owned or controlled by another. *See Competitive Networks*, 15 FCC Rcd at 22983.

[1029] *See UNE Remand Order*, 15 FCC Rcd at 3793, para. 216.

wire subloop would impede facilities-based carriers' ability to develop their own networks which, once developed, could eventually lead to the elimination of the loop element from unbundling obligations.[1030]

346. Similarly, in the *Local Competition Order*, the Commission ordered the unbundling of the NID, finding that competitors deploying their own loops must be able to interconnect those loops to customer premises wiring in order to provide service using their own facilities, especially to customers in multiunit buildings.[1031] In the *UNE Remand Order*, the Commission broadened the definition of the NID to encompass any means of interconnection of the incumbent LEC's distribution plant to customer premises wiring and to require that incumbent LECs permit a competitor to connect its own loop facilities to customer premises wiring through the incumbent LEC's NID if desired.[1032] The Commission declined to include the NID in the definition of the loop, or any other subloop element, emphasizing its intent to provide competitors flexibility in where they can access the subloop.[1033] Together, the subloop and NID unbundling rules recognize the necessity of these UNEs to overcoming existing impairments with respect to accessing customer premises wiring to provide competitive local services to customers desiring to take such services, particularly for facilities-based loop providers, in multiunit premises.[1034]

2. Subloops For Multiunit Premises Access

347. We limit our analysis herein to only those subloops associated with access to premises wiring at or near a multiunit customer premises.[1035] Parties submitting comments on subloops, other than subloop access at remote terminal locations, do so almost exclusively in the

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[1030] *Id*. at 3792, para. 215.

[1031] *Local Competition Order*, 11 FCC Rcd at 15697, para. 392.

[1032] *UNE Remand Order*, 15 FCC Rcd at 3802, para. 237; *see also* 47 C.F.R. § 51.319(a)(2).

[1033] *Id.*

[1034] *See UNE Remand Order*, 15 FCC Rcd 3793, para. 216 ("a facilities-based provider's ability to offer service in a multi-unit building or campus may be severely impaired if it must install duplicative inside wiring . . . requiring landlords and customers to permit the construction of redundant inside wiring could substantially impede market entry and competition"); *see also id*. at 3801, para. 232 ("the record indicates that requiring a requesting carrier to self-provision NIDs for all customers it seeks to serve would materially raise the cost of entry, delay broad facilities-based market entry and materially limit the scope and quality of competitors service offerings.")

[1035] We include within the definition of the subloops for which we require unbundled access, not only the Inside Wire Subloop, but also any other loop-accessible terminal *at, or near*, a multiunit customer premises where, as a result of the incumbent LEC's network architecture, a requesting carrier may need subloop access to utilize the Inside Wire Subloop or NID to reach the end user. These subloop unbundling rules seek to encompass the various other network configurations that may occur at a multiunit premises when the demarcation point, the MPOE, and the NID are not all located at the same point, *e.g.*, in the basement utility room of the particular building to be served. The Commission has defined "multiunit premises" in section 68.105 of the rules. *See* 47 C.F.R. § 68.105 (multiunit premises include but are not limited to, residential, commercial, shopping center and campus situations).

context of multiunit premises.[1036] We, therefore, limit our focus accordingly. To the extent parties address unbundled subloop access unrelated to multiunit premises, *e.g.*, access at remote terminals for the purpose of accessing IDLC loops or to provide xDSL services, we consider those subloop issues in the context of our loop unbundling rules.[1037] We conclude that requesting carriers are impaired without access to unbundled subloops associated with accessing customer premises wiring at multiunit premises.[1038] Based on evidence in the record, we find that the barriers faced by requesting carriers in accessing customers in multiunit premises are not unique to customers typically associated with the enterprise market residing in such premises but extend to all customers residing therein, including residential or other tenants typically associated with the mass market.[1039] Thus, we, expressly require subloop unbundling to reach all customers residing in multiunit premises.[1040] The use of unbundled subloops to access customers in multiunit premises is also not limited by the type or capacity of the loop the requesting carrier will provide.[1041]

[1036] *See, e.g.*, WorldCom Comments at 119-120; ALTS *et al*. Comments at 48; Sprint Comments at 30; AT&T Reply at 176.

[1037] *See supra* Part VI.A.4.a.(v). Specifically, because these other types of subloop access arise in the context of serving customers typically associated with the mass market over DS0 level mixed copper/fiber loops, we address them in the Mass Market loop impairment analysis. We note that the subloop unbundling rules adopted in this section are not intended to modify or otherwise change any aspect of the loop or subloop unbundling rules we also adopt today except to the extent expressly indicated.

[1038] We noted in the *UNE Remand Order*, for example, that the FDI which is the meet point between the feeder trunk line leading back to the central office and the "distribution" plant to the subscriber may be located in a utility room in a multiunit premises and the loop may go directly from the feeder to the inside wire. In this scenario, under the rules we adopt today, unbundled access to the FDI would be required as a subloop necessary to access the inside wire in the building. *See UNE Remand Order*, 15 FCC Rcd at 3790, para. 206 & n.398. Similarly, any other network configuration whereby access to the incumbent LEC's network in or near the multiunit premises facilitates access to the Inside Wire Subloop or other inside wire at the premises must be unbundled. In other words, any other technically feasible access point to these subloops, including but not limited to, the pole or pedestal, the NID, the MPOE, and the SPOI must be provided on an unbundled basis.

[1039] *See, e.g.*, AT&T Reply at 174-77 (incorporating by reference its March 8, 2002 Comments in WT Docket No. 99-217, *Competitive Networks*); WorldCom Oct. 25, 2002 Building Access *Ex Parte* Letter at n.21 (incorporating by reference multiple documents discussing these and related issues); ALTS *et al*. Comments at 48 n.118 (incorporating into record SBPP Mar. 8, 2002 Comments in *Competitive Networks*).

[1040] Competitive LECs serving customers residing in multiunit premises typically associated with the mass market face the same economic and operational barriers as serving customers residing in multiunit premises typically associated with the enterprise market.

[1041] While we recognize impairments related to multiunit premises access as one of a number of factors considered in crafting our unbundling rules for high-capacity loops, we accord substantially greater weight to these impairments with respect to subloop unbundling for multiunit premises access. We recognize that carriers seeking to provide all types of loop capacities to end users in these premises may encounter these impairments on an equal basis. For example, in a building where unbundled DS3 loops from the incumbent LEC are no longer required because such capacity has met the self-provisioning or available wholesale alternatives trigger, the availability of such capacity *to* the building does not correlate to the ability to take that capacity *up through the* building to the (continued….)

348. We find that competitive carriers are impaired on a nationwide basis[1042] without access to unbundled subloops used to access customers in multiunit premises.[1043] Because of their prior exclusive access, incumbent LECs have first-mover advantages with respect to access to customers in multiunit premises. Requesting carriers face many barriers in accessing customers in multiunit premises, including a general prohibition against facilities-based access; prohibitive sunk costs associated with rewiring a building to serve potentially only a single customer; the refusal for reasonable access to the existing premises wiring; or the refusal to allow installation of the carrier's own new wiring. Subloops associated with access to multiunit premises have economic characteristics similar to loops generally, *i.e.*, they are extremely time-consuming and expensive to duplicate on a pervasive scale and self-provisioning can be prohibitively costly.[1044] As explained above, the loop itself can be overwhelmingly difficult for competitors to self-deploy due to the sunk and fixed costs associated with entry. Many types of loops continue to represent an enduring "last-mile" bottleneck.[1045] Finally, the record reflects that no third-party wholesale alternatives to these subloops are available.[1046] Our findings regarding impairment with respect to subloops to serve multiunit premises, is consistent with our findings regarding loops, generally.[1047] Failure to recognize these barriers and their substantial preclusive effect on the ability of facilities-based entry to multiunit premises undermines the objectives of our unbundling mandates. For all requesting carriers, especially carriers constructing facilities-based networks, the ability to access subloops at, or near, the customer's premises in order to reach the infrastructure in those premises where they otherwise would not be able to take their loop the full way to the customer, is critical.[1048]

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floor or suite of a customer to be served. *See, e.g.*, AT&T Reply at 176 (describing "fiber to the floor" limitations). Thus, to be clear, unbundled subloops for multiunit premises access are available to requesting carriers irrespective of the capacity level or type of loop such carrier will provide to its customer at that premises. We note that existing premises wiring may often be suboptimal for provisioning higher capacity loops depending on the age of the wiring. Ideally, in these circumstances, competitive carriers prefer to install new wiring *if, and when*, they are permitted.

[1042] We note that some states have adopted rules that address various aspects of multiunit tenant access by competitive LECs. *See, e.g.*, Order Establishing Statewide Policy for MDU Access, Application No. C-1878/PI-23, (Neb. P.S.C. Mar. 2, 1999); Conn. Gen. Stat. § 16-2471 (1997); 16 Tex. Admin. Code § 26-129 (Sept. 7, 2000); Mass. DTE 98-36-A. These rules vary widely in scope and application and we have little evidence that that these provisions sufficiently mitigate the barriers to multiunit premises access associated with our subloop impairment finding.

[1043] *See* NuVox *et al*. Comments at 70 ("[n]o 'changed circumstances' have developed over the past two years that would support or justify removal of . . . subloops or NIDs from the national UNE list.").

[1044] *See id*. at 81-82; ALTS *et al*. Comments at 46.

[1045] *See supra* Part VI.A.4.

[1046] *See* NuVox *et al*. Comments at 81-82.

[1047] *See supra* Part VI.A.4.

[1048] *See* GCI Comments at 44; Sprint Comments at 30; ALTS *et al*. Comments at 46.

349. In reaching our conclusion, we note that no commenter, including incumbent LECs, argue that subloops associated with accessing wiring at multiunit premises, generally, should be removed from the list of UNEs.[1049] Indeed, one incumbent LEC states that it has not incurred large burdens or increased costs in having subloops defined as UNEs and doubts if it has been a burden for other LECs either.[1050] We acknowledge that the record contains some evidence that competitor's use of subloop UNEs, to date, has been limited.[1051] We agree that this is largely the result of the fact that competitive carriers have relied more heavily on entry methods such as loops in combination with switching or stand-alone loops which take them all the way to the end-user customer, even in multiunit premises, rather than self-provisioning facilities-based networks, including loop plant, to the customer's premises. We expect that, collectively, the unbundling rules we adopt today will both facilitate and encourage facilities-based provisioning and, thus, lead to a greater demand for these unbundled subloops in the future. Accordingly, we seek to ensure that those carriers that self-deploy loops are able to access the last few feet necessary to serve the end-user customer residing in a multiunit premises.

350. Finally, our previous subloop unbundling rules contained a provision stating that access to the subloops is subject to the Commission's collocation rules.[1052] This provision was included to facilitate remote terminal access particularly for accessing IDLC loops and copper loop portion for xDSL service.[1053] The record indicates that this provision may have been interpreted to require either that a requesting carrier establish collocation as its chosen method of interconnection pursuant to section 51.321 of our rules[1054] in order to obtain a subloop, or that the

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[1049] *See* GCI Comments at 43-44 (discussing the fact that a competitive LEC is impaired without access to the loop or subloop because constructing loop facilities is not a viable alternative to unbundling; there are no economically feasible alternative sources available; and even GCI, who is constructing its own loop facilities, is years away from being able to do it on a widespread basis); ALTS *et al*. Comments at 46-47 (asserting that the Commission should continue to require unbundled access to subloops for the same reasons it must continue to provide unbundled access to loops; access to the subloop remains crucial to competitive LECs who self-provision parts of their networks and need access to discrete portions of the loop); Sprint Comments at 30; BellSouth Comments at 74-76; *see also* Supra Comments at 9; Texas Commission Reply at 12; California Commission Comments at 17. We note, however, that BellSouth and Verizon take issue with the way multiunit premises subloop access at a SPOI has been required. *See* BellSouth Feb. 17, 2000 Petition for Reconsideration at 4-5; Bell Atlantic Petition for Reconsideration and Clarification, CC Docket No. 96-98 at 13-15 (filed Feb. 17, 2000) (Verizon Feb. 17, 2000 Petition for Reconsideration). We address subloop access through a SPOI below. *See infra* note 1058. Other parties argue, generally, that the Commission should retain its entire currently-specified list of unbundled elements including subloops. *See, e.g.*, Rural Independent Competitive Alliance Comments at 2; Illinois Commission Comments at 5; GSA Comments at 5; Pennsylvania Office of the Consumer Advocate *et al*. Comments at 19-22.

[1050] *See* Sprint Comments at 30; *see also* Qwest Comments at 45-46 (suggesting the continued availability of subloops in arguing against unbundling for advanced services).

[1051] *See* Sprint Comments at 30.

[1052] 47 C.F.R. § 51.319(a)(2)(iv).

[1053] *See UNE Remand Order*, 15 FCC Rcd at 3794-3800, paras. 218-29.

[1054] 47 C.F.R. § 51.321(b).

requesting carrier must establish a collocation arrangement at the specific point it accesses the subloop, including those subloops associated with multiunit premises access.[1055] The rules we adopt today make clear that *no* collocation requirement exists with respect to subloops used to access the infrastructure in multiunit premises. Incumbent LECs are required to provide subloops to access multiunit premises without collocation.[1056] Competitive carriers are able to access these subloops at any technically feasible terminal point at or near the building *in any technically feasible* manner.[1057] This will provide facilities-based competitors the greatest flexibility in designing their networks and most efficiently accessing these subloops only at the point necessary.[1058]

[1055] The record contains evidence that at least one incumbent LEC imposes a collocation requirement on requesting carriers ordering subloops at multiunit premises. *See* Letter from J.G. Harrington, Counsel for Cox Communications, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Dec. 19, 2002) (discussing issues associated with accessing multiunit premises wiring) (Cox Dec. 19, 2002 *Ex Parte* Letter).

[1056] This is not to suggest that a requesting competitive LEC and an incumbent LEC may not agree that some method of "collocating" a competitor's terminal to cross-connect with the incumbent LEC's terminal at a subloop access point at a multiunit premises is desirable, taking into account space availability.

[1057] To the extent there is disagreement with respect to what is "technically feasible" with respect to subloop access at a multiunit premises, this issue is left to the state in the context of particular interconnection arrangements pursuant to section 252 of the Act, which can take into account the particular incumbent LEC's network architecture as well as the requesting carrier's network. *See UNE Remand Order*, 15 FCC Rcd at 3797, para. 224. Once a state determines that it is technically feasible to unbundle a subloop at a particular point, an incumbent LEC shall have the burden of demonstrating that it is not technically feasible to unbundle its own loop at that point. WorldCom requests clarification that state determinations of "technically feasible" subloop unbundling may occur in state proceedings that are not limited solely to section 252 arbitration proceedings, but may include other state proceedings conducted pursuant to and consistent with section 252 of the Act. We agree that this is an important clarification and therefore reflect it in our rules. *See* MCI WorldCom Feb. 17, 2000 Petition for Clarification at 20-21.

[1058] In requiring unbundled subloops at, or near, a multiunit premises for access to the wiring at the premises, including Inside Wire Subloops, we note that our current requirement relating to the incumbent LEC's obligation to construct a single point of interconnection (SPOI) at multiunit premises locations for access to these subloops requires the incumbent LEC to construct a SPOI even where it has no facilities into the premises. We agree with BellSouth that if an incumbent LEC has no facilities which it owns, controls or leases at a multiunit premises through which it serves, or can serve, customers at such premises, it should not be obligated to construct an SPOI. *See* BellSouth Feb. 17, 2000 Petition for Reconsideration at 4-5. Thus, we grant that portion of BellSouth's petition requesting that we limit the incumbent LEC's obligation to construct a SPOI to only those multiunit premises where the incumbent LEC has distribution facilities to that premises and either owns, controls, or leases the inside wire at the multiunit premises, including the Inside Wire Subloop, if any, at such premises. We further clarify as requested by BellSouth that the incumbent LEC's obligation to build a SPOI for multiunit premises only arises when a requesting carrier indicates that it intends to place an order for access to an unbundled subloop network element via a SPOI. *See* BellSouth Feb. 17, 2000 Petition for Reconsideration at 4-5; *see also* BellSouth Comments at 75.

In clarifying the rules we adopt today regarding the extent of an incumbent LEC's obligation to construct a SPOI, we deny Verizon's request to eliminate the SPOI requirement. *See* Verizon Feb. 17, 2000 Petition for Reconsideration at 13-15. Verizon claims a SPOI rule requires it to construct a new network element. A SPOI is a means of interconnection with a network element, rather than part of the network element. We locate our authority to require the SPOI in the section 251(c)(2) requirement that incumbent LECs provide interconnection "at any (continued….)

a. Inside Wire Subloops and NIDs.

351. We find that requesting carriers continue to be impaired on a nationwide basis without unbundled access to the incumbent LEC inside wire subloops and NIDs. The record conclusively supports our determination that inside wire subloops and NIDs should be unbundled. The economic impairment competitive LECs face, generally, with respect to most loops is exacerbated through the outright barriers they face in gaining access to customers from owners of multiunit premises. This impairment is especially problematic in situations where competitors are able to construct and provision a local loop using their own facilities all the way to a customer premises, yet still remain unable to reach the end user in that premises.[1059] If competitors can only get as far as the building or property line MPOE with their own facilities because they are prohibited from installing their own customer premises wiring to reach a customer at that premises, the incumbent LEC's inside wire subloop or NID may be the exclusive means of reaching an end user. Often, there is no alternative inside wiring other than the incumbent LEC's available at the premises.[1060] In cases where customer premises wire is not part of the incumbent LEC's network, hence not an inside wire subloop, the NID may be the sole means of accessing this customer premises wire.

352. We note that the *Triennial Review NPRM* raised the issue of whether the NID is appropriately considered part of the loop when a competitor requests access to the loop or a subloop.[1061] We have previously declined to include the NID as part of the loop[1062] in adopting subloop unbundling rules, yet we have recognized that the loop network element does, indeed, include the NID functionality when an end-to-end loop is provided.[1063] Under the rules we adopt

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technically feasible point within the carrier's network. *See* 47 U.S.C. § 251(c)(2). We reject the argument advanced by Verizon that the SPOI requirement is inconsistent with either section 251(c)(2) of the Act or the Eighth Circuit's decision in *Iowa Utils. Bd.* The Eighth Circuit endorsed the Commission's statement that "the obligations imposed by sections 251(c)(2) and section 251(c)(3) include modifications to incumbent LEC facilities to the extent necessary to accommodate interconnection or access to network elements." *Iowa Utils. Bd.*, 120 F.3d at 813 n.33. Section 251(c)(2) expressly requires incumbent LECs to provide interconnection "at any technically feasible point" and the Eighth Circuit held that, pursuant to section 251(c)(2), incumbent LECs must modify their networks to accommodate interconnection and access to UNEs. Thus, incumbent LECs are under a continuing obligation to accommodate technically feasible methods of interconnection, including modifying their networks to do so, and the Eighth Circuit's decision does not relieve incumbent LECs of the requirement to construct a SPOI necessary to accommodate subloop access at multiunit premises.

[1059] Owners of multiunit premises have no nationwide obligation to provide competitive LECs reasonable and nondiscriminatory access to their premises on the same terms that the incumbent LEC has access. This often includes the ability to timely and economically install customer premises wiring and other necessary facilities (including the NID functionality) to reach end-user customers. *See infra* para. 353.

[1060] *See, e.g.*, Letter from John T. Nakahata, Counsel for GCI, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, 01-318, 98-56, 98-141, Attach. at 7 (filed Jan. 15, 2003).

[1061] *Triennial Review NPRM*, 16 FCC Rcd at 22803, para. 48 n.110.

[1062] *UNE Remand Order*, 15 FCC Rcd at 3802, para. 235.

[1063] *Line Sharing Order*, 14 FCC Rcd at 20923, para. 17 n.29.

today, we identify at least three scenarios where competitive LECs are impaired without access to the NID functionality: (1) access to a stand alone unbundled NID; (2) access to the NID functionality as a component of an unbundled end-to-end loop or a subloop and (3) access to the NID to utilize the inside wire subloop. We note that different incumbent LEC network configurations determine where the NID occurs in each of the three scenarios[1064] and we specify the incumbent LEC's unbundling obligations with respect to each of these scenarios.

353. First, we require the NID to be offered as a separate UNE for requesting carriers requiring only stand alone NID access. Incumbent LECs are required to provide unbundled access to the NID on the incumbent LEC's network side on a stand-alone basis to permit a requesting carrier to connect its own loop facilities to the premises wiring at any customer location.[1065] The incumbent LEC's NID in this case provides a critical and necessary element to enable the competitor to reach its customer and a UNE-based rate for this access is appropriate. Second, when a requesting carrier requests access to an unbundled local loop or subloop to reach a customer, the NID functionality is an included component of that loop or subloop, and must be

[1064] For example, the NID can mark the end of the loop, hence, the end of the incumbent LEC's network. The NID can also be within the loop at a multiunit premises if the incumbent LEC's network extends into the building beyond the MPOE; in this case the NID can be characterized as part of a subloop. Similarly, competitive LEC's may need unbundled access to the NID on the incumbent LEC's network side to utilize wiring in the building that is not part of the incumbent LEC's network, or they may need only one time contact with the incumbent LEC's NID on the customer's side of the NID to disconnect the customer's dedicated wiring and reconnect it to the competitive LEC's own NID if the competitive LEC has installed its own NID. In this latter case, the competitive LEC's contact with the NID on the customer side does not constitute access to an incumbent LEC's UNE and the competitive LEC should neither incur a charge from the incumbent LEC associated therewith nor can the incumbent LEC require the presence of one of its technicians.

[1065] For example, a competitor will generally need access to the NID on a stand-alone basis on the incumbent LEC's network side of the NID when the competitive LEC is provisioning its own loops to the premises; the NID and the demarcation point are located at the MPOE; and the wiring in the premises is not part of the incumbent LEC's network. In this scenario, accessing the incumbent LEC's NID on the network side enables the competitor to directly access the premises wiring to serve its customer either because the competitor has been prevented from installing its own NID and duplicative premises wiring, or the cost of doing so to serve a single customer is prohibitively expensive. Verizon opposes a requirement that permits competitive LECs to connect their loops directly to the incumbent LEC's NID because of the risk of overvoltage. Verizon Feb. 17, 2000 Petition for Reconsideration at 11-13. We reject Verizon's argument that requesting carriers be denied direct access to the NID because of the risk of overvoltage. The record does not support a finding that overvoltage is a likely occurrence at NIDs because competitive LECs generally deploy fiber loops, which will ground in the terminating box rather than the NID. *See* WorldCom Comments in Response to Verizon Feb. 17, 2000 Petition for Reconsideration at 10-11 (Prevalence of fiber loops deployed by requesting carriers and the spare grounding terminals at incumbent LEC NIDs guard against overvoltage); *see also* AT&T Comments In Response to Verizon Feb. 17, 2000 Petition for Reconsideration at 12; MediaOne Comments in Response to Verizon Feb. 17, 2000 Petition for Reconsideration at 2; Sprint Comments in response to Verizon Feb. 17, 2000 Petition for Reconsideration at 9 (it is technically feasible for requesting carriers to connect their loops directly to incumbent LEC NIDs). Where a requesting carrier may deploy copper, incumbent LECs can require requesting carriers interconnecting at the NID to take appropriate steps to properly secure displaced or turned-back wiring, such as taping the ends of the wire, or attaching the displaced wire to spare terminals within the NID, through interconnection arrangements. We therefore deny Verizon's petition with respect to enabling competitive LECs to directly connect their loops to the incumbent LEC's NID. *Id.*

provided to the requesting carrier as such.[1066] In this case the incumbent LEC should not impose a separate charge for the NID functionality as it should be included in the unbundled loop or subloop charge. Similarly, in network configurations where the NID does not coincide with the termination point of the incumbent LEC's network at a multiunit premises, *i.e.*, the demarcation point, and a portion of the loop extends beyond the NID, a competitor accessing the NID for the purpose of connecting to the incumbent LEC's inside wire subloop is entitled to the NID functionality as part of the inside wire subloop.[1067] Finally, we note that in scenarios where a competitive LEC has constructed its own NID at a premises and needs only to make contact with the incumbent LEC's NID to disconnect the customer's wiring from the incumbent LEC's NID and reconnect it to the competitive LEC's NID, the competitive LEC is *not* accessing or using the incumbent LEC's NID on an unbundled basis and no associated incumbent LEC charge may be imposed on the competitive LEC.[1068]

(i) Inside Wire Subloop Impairment

354. We require incumbent LECs to unbundle the inside wire subloop. We conclude that a finding of impairment for the inside wire subloop removes a disincentive for competitors to deploy their own loop infrastructure. Without unbundled access to the inside wire subloop, a facilities-based competitor could conceivably construct an entire facilities-based network with no reliance whatsoever on the incumbent LEC's network elements, and still be unable to reach an end user in a multiunit premises or campus-type environment.[1069] Unless a competitor has access to the unbundled incumbent LEC inside wire subloop, competitors may simply have no alternative, especially in multiunit premises, if the premises owner simply refuses to enable the

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[1066] For example, a competitive LEC ordering a full loop or a subloop at some accessible point before the loop reaches the customer premises wiring will be doing so because it is unable to otherwise reach its customer. In this scenario, ordering the loop or subloop is intended to take the competitor all the way to the customer. Because the NID is the functionality that connects the distribution plant to the customer premises wiring it is part of that loop and must be provisioned as such. Depending again on where the incumbent LEC's network demarcation point is located at the premises, the NID may either mark the end of the loop or be at some point within the loop before the demarcation point. One commenter suggests that competitive LECs ordering an end-to-end loop (or subloop) to reach a customer should have the NID functionality included in the loop *without a separate charge. See* AT&T Comments at 162. We agree and expect that the NID rules we adopt today make that clear going forward. In the unlikely event that a competitive LEC does not need the NID at a location where it orders an unbundled loop or subloop that includes the NID functionality, this scenario should be accommodated through a separate negotiation.

[1067] In buildings where the incumbent LEC has not located the demarcation point at the MPOE and its network extends into the building, the NID may nevertheless be located at the MPOE. In this scenario, a competitor may need access to that NID to gain access to the Inside Wire Subloop. Since the NID would not mark the end of the incumbent LEC's network in this scenario, accessing the Inside Wire Subloop at the NID would provide the NID functionality for that subloop.

[1068] *See* AT&T Comments at 162.

[1069] It would be an unintended perverse result which would run afoul of one of our principal objectives in implementing the Act--the encouragement of facilities-based competition--if our rules did not accommodate this impairment while enabling competitors that continue to rely on the incumbent LEC for a full unbundled local loop (which by definition includes the Inside Wire Subloop) to gain unimpaired access to the same end users.

competitive LEC to construct its own wiring.[1070] In situations where the competitor may be able to negotiate the right to install its own wiring, consistent with our finding of financial/economic barriers for self-provisioning most loops and subloops, generally, duplication of the inside wire subloop, particularly for a limited number of tenants is both cost and time prohibitive and could require competitors to incur sunk costs which may never be recoverable.[1071]

355. Commenters confirm that in those premises where the demarcation point of the incumbent LEC's network is not located at the MPOE and the incumbent LEC's network extends into the premises, a competitor's access to the incumbent LEC's inside wire is often the only means by which a competitive LEC can practically offer service to customers.[1072] There is no evidence that any third-party alternative providers exist and self-provisioning is extremely difficult, if not impossible. The record further reflects that competitive carriers continue to experience barriers with respect to their ability to gain access to multiunit premises to install their own facilities as building owners regularly impose unreasonably high entry rates on competitive LECs; fail to negotiate on a timely basis;[1073] or impose uneconomic limitations on the installation of inside wiring.[1074]

(ii) NID Impairment

356. We conclude that the NID should remain available as an UNE as the means to enable a competitive LEC to connect its loop to customer premises inside wiring.[1075] As noted by

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[1070] If there is a portion of the incumbent LEC's loop at the premises on the incumbent LEC's side of the NID, the subloop unbundling rules we adopt today will ensure useful access to the NID. *See* WorldCom Comments at 119-20. We recognize that at those premises where the building owner has exercised its right to require the incumbent LEC to place its demarcation point at the MPOE pursuant to 47 C.F.R. § 68.105, the wiring at that premises will not be part of the incumbent LEC's local loop and our Inside Wire Subloop rules may not aid the competitor in reaching the customer if the building owner will not enable the competitor to construct its own wiring (assuming such construction would even be economically feasible). In this situation, however, enabling competitive LECs to connect their loop to the incumbent LEC's unbundled NID gives competitive LECs access to the existing inside wire used by the incumbent LEC to reach its customers even though this inside wire may not be an UNE. We reiterate our requirement that access to such wiring be provided to a competitive LEC on non-discriminatory terms where another carrier providing service at the premises over such wire, *e.g.*, the incumbent LEC, has responsibility for the installation and maintenance of the wire. Similarly, we expect building owners to exercise the control of this wiring in a non-discriminatory way. *See Competitive Networks Order*, 15 FCC Rcd at 23009, para. 57.

[1071] *See* ALTS *et al*. Comments at 42.

[1072] WorldCom Reply at 170; NuVox *et al*. Comments at 81 (citing TDS Jackson Aff. at para. 10 n.251) ("For residential and small business customers who are served off basic loops or subloops, there is absolutely no way to justify overbuilding LEC facilities using current technology.").

[1073] *See, e.g.*, WorldCom Comments at 120 (noting that it takes 6-9 months to negotiate); AT&T Reply at 174-79.

[1074] *See, e.g.*, AT&T Reply at 176.

[1075] *See, e.g.*, NuVox *et al*. Comments at 83-84; NuVox *et al*. Reply at 39; GCI Comments at 43-44; WorldCom Comments at 119-20; WorldCom Reply at 170-71; Supra Comments at 9; Sprint Comments at 31; ALTS *et al*. Comments at 60.

commenters, the NID is the gateway to the consumer and thus the key to local competition.[1076] Indeed, the record shows that the NID may often be the only means through which a competitive LEC can provide facilities-based service to customers, particularly those located in multiunit premises.[1077] As we noted above in our discussion of the inside wire subloop, unbundled access to the NID ensures that competitors are able to access customer premises inside wiring owned, controlled or used by the LEC, even if competitors are precluded by the premises owner from installing duplicative, yet necessary, wiring to reach their customer.[1078] The Commission first recognized this in the *Local Competition Order*[1079] and we find it to remain the case today. If anything, the record suggests that as more and more competitors begin deploying their own local loop facilities in lieu of relying on the incumbent LEC loop, access to the unbundled NID will be more critical than ever.[1080] We agree that unbundled access to the NID remains a crucial catalyst to facilities-based competition.[1081] The record demonstrates that competitive carriers face numerous situations where access to the unbundled NID is critical to the ability to access the LEC's inside wire subloop or other customer premises inside wiring beyond the demarcation point in order to reach the end-user customer.[1082] Only one commenter, Verizon, opposed continued unbundling of the NID. We disagree with Verizon that because no requests for unbundled access to the NID have been made in Verizon territory, no requesting carrier can reasonably claim that it is impaired without access to the LEC's unbundled NID.[1083] The record reflects otherwise on a nationwide basis.

[1076] NuVox *et al*. Comments at 83.

[1077] *See, e.g.*, WorldCom Comments at 120; Sprint Comments at 31-32.

[1078] *See supra* para. 352.

[1079] *Local Competition Order*, 11 FCC Rcd at 15697, para. 392.

[1080] *See, e.g.*, GCI Comments at 43; WorldCom Reply at 170-71; Sprint Comments at 32; ALTS *et al*. Comments at 60.

[1081] *See, e.g.*, ALTS *et al*. Comments at 60 (noting that "unbundling the NID promotes facilities-based competition by allowing carriers to reduce their reliance on the incumbent by interconnecting their facilities closer to the customer.").

[1082] *See, e.g.*, WorldCom Comments at 120; WorldCom Reply at 170-71; Sprint Comments at 31-32; *see also* Cox Dec. 19, 2002 *Ex Parte* Letter.

[1083] *See* Verizon Comments at 122 n.433. While it may initially appear that AT&T, like Verizon, suggests that the NID need not be separately unbundled from the loop so as to prevent competitors from accessing it on a stand-alone basis, AT&T's comments appear to be directed both at how a competitive LEC is *charged* for access to the NID functionality and whether the NID functionality is to be provided as part of a loop or subloop when ordered by a competitive LEC rather than whether it should be available as a separate unbundled element to the extent competitive LECs require access to the NID on a stand-alone basis. *See* AT&T Comments at 162; AT&T Corp. Petition For Reconsideration and Clarification of the Third Report and Order, CC Docket No. 96-98 at 19-20 (filed Feb. 17, 2000) (AT&T Feb. 17, 2000 Petition for Reconsideration). We have distinguished above those scenarios where the NID must be provisioned as part of the loop or subloop when a competitive LEC orders a loop or subloop and those scenarios when charges for stand-alone NID access are appropriate. The NID and subloop unbundling rules we adopt herein ensure that competitive LECs obtain a full loop or subloop, including the network termination (continued….)

357. The record also reveals that the equipment, labor and construction cost of duplicating the NID functionality at every customer location continues to be prohibitive,[1084] and, thus, presents a barrier to entry.[1085] Moreover, the record indicates that no competitive NID providers exist.[1086] Finally, commenters offer compelling evidence that from an operational perspective, denying competitors the ability to access the incumbent LEC's unbundled NID could result in complicated inside wire rearrangements that would result in lengthy service delays and costs and result in a waste of resources for all carriers involved.[1087]

358. We decline to adopt in this Order more specific rules defining, on a nationwide basis, the manner and scope of access to the unbundled NID functionality.[1088] Individual incumbent LEC and competitive LEC arrangements governing the process and procedures for obtaining access to an UNE to which a competitive LEC is entitled, are more appropriately addressed in the context of individual interconnection agreements pursuant to section 252 of the Act. Should a competitive LEC believe that the incumbent LEC is imposing unreasonable or discriminatory requirements, either in the negotiation or implementation stage of an interconnection arrangement, forums to address such issues are set forth in the Act.[1089] These

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portion of that loop or subloop, if required, yet preserves the ability of facilities-based LECs to obtain access to only the NID on a stand-alone basis when required. AT&T's February 17, 2000 petition for reconsideration with respect to loop and subloop unbundling requirements is therefore moot.

[1084] *See, e.g.*, Sprint Comments at 31 ("[I]t is the total cost of installing a NID at every customer location that substantially impairs requesting carriers"); ALTS *et al*. Comments at 59 ("The cost/benefit equation of self-provisioning NIDs has not changed since the *UNE Remand Order*. Self-provisioning NIDs at numerous locations would cause competitive LECs to incur duplicative expense and delay the timeframe in which they are able to provide service."); *see also* GCI Comments at 42- 43; WorldCom Comments at 120; NuVox *et al*. Comments at 84; NuVox *et al*. Reply at 39 n.169.

[1085] We reached a similar conclusion in the *UNE Remand Order*. *See UNE Remand Order*, 15 FCC Rcd at 3801, para. 232.

[1086] NuVox *et al*. Comments at 84 ("[T]he CLEC Coalition knows of no vendor that can provide it with or install NIDS at the locations they serve. Thus, they must continue to rely on LECs for NID access in order to have entry to customer premises."); *see also* Sprint Comments at 32 ("Sprint is unaware of any alternative providers of standalone NIDs.").

[1087] *See* Sprint Comments at 32; *see also* WorldCom Comments at 120 ("It would be prohibitively expensive for a CLEC leasing unbundled loops to single unit premises to dispatch technicians to each unit to install a new NID, and it would be wasteful to impose on new entrants the costs both of disconnecting loops and NIDs that are normally combined in ILEC's networks and of installing new and unnecessary NIDs.").

[1088] *See* BellSouth Comments at 75-76 (discussing hypothetical "hazards" that competitive LECs may cause to an end user's premises through accessing the incumbent LECs NID and arguing that competitive LECs need to agree to follow practices and procedures that ensure safety and continuity of service); *see also* Cox Dec. 19, 2002 *Ex Parte* Letter (discussing its experience with requirements imposed by certain incumbent LECs associated with a competitive LECs need to access the NID functionality and requesting that the Commission adopt a uniform nationwide rule which would prohibit unreasonable requirements).

[1089] *See generally* section 252 of the Act governing the process for interconnection negotiations and related disputes. 47 U.S.C. § 252.

same forums are available to the incumbent LEC. We note, however, that the record contains evidence that at least one incumbent LEC requires competitive LECs seeking access to the NID or inside wire subloop to undertake a lengthy and burdensome process at the customer premises to "collocate" a separate terminal facility in order to gain access to the inside wire subloop, or other inside wire used by the LEC to access customers in multiunit premises.[1090] We find such a requirement to be contrary to the NID and inside wire subloop unbundling rules we adopt today and therefore prohibit such requirements.[1091] Similarly, a competitive LEC seeking to make contact with the incumbent LEC's NID for the purpose of disconnecting wiring on the customer's side of the NID so that the competitive LEC can reconnect such customer wiring to its own NID is *not* accessing the incumbent LEC's NID as a UNE. As such, an incumbent LEC requirement to have its technician present and to impose an associated charge on the competitive LEC for such contact on the non-network side of the NID would also be contrary to the rules we adopt today. Accordingly, we therefore prohibit these types of requirements as well.

C. Dedicated Transport

1. Summary

359. Pursuant to the approach of the *Triennial Review NPRM*, the Commission adopts in this Order a more granular unbundling analysis for transport facilities.[1092] As discussed above, this analysis comports with the guidance of the Supreme Court and the D.C. Circuit which call for the Commission "to apply *some* limiting standard" and to demonstrate "a reasonable basis for thinking that competition is suffering . . . impairment."[1093] Our findings reflect these admonitions as we carefully assess the availability of network elements from alternative sources outside the incumbent LECs' facilities.[1094] As an initial matter, we limit our definition of the dedicated transport network element to only those transmission facilities connecting incumbent LEC switches or wire centers. The Commission makes findings regarding impairment as to different capacities of transport. We believe that our analysis of transport will create market certainty and provide incentives for competitive LECs to deploy and utilize alternate facilities.[1095] Specifically, based on the evidence in the record, we make the following determinations:

[1090] *See* Cox Dec. 19, 2002 *Ex Parte* Letter.

[1091] As we have noted in para. 350, *supra*, we recognize that facilities-based carriers, in particular, may use an alternative method of interconnection as provided in for in section 51.321 of the rules, 47 C.F.R. § 51.321. Moreover, with respect to subloops to access multiunit premises including Inside Wire Subloops, a collocation requirement would be unduly burdensome and unnecessary.

[1092] *Triennial Review NPRM*, 16 FCC Rcd at 22809-11, paras. 63-64.

[1093] *Iowa Utils. Bd.*, 525 U.S. at 388 (emphasis in original); *USTA*, 299 F.3d at 422.

[1094] *See UNE Remand Order*, 15 FCC Rcd at 3861-62, paras. 366-68.

[1095] Providing a limitation on the availability of higher capacity unbundled transport may also encourage technological innovation that allows more efficient use of lower capacity bandwidth levels.

- *OCn Transport*. We find on a national level that requesting carriers are not impaired without access to unbundled OCn transport facilities.[1096]

- *Dark Fiber Transport*. We find on a national level that requesting carriers are impaired without access to unbundled dark fiber transport facilities,[1097] subject to both a granular route-based review by the states to identify available wholesale facilities and to identify where transport facilities can be deployed.

- *DS3 Transport*. We find on a national level that requesting carriers are impaired without access to DS3 transport, subject to both a granular route-based review by the states to identify available wholesale facilities and to identify where transport facilities can be deployed.

- *DS1 Transport*. We find on a national level that requesting carriers are impaired without access to unbundled DS1 transport facilities, subject to a granular route-based review by the states to identify available wholesale facilities.

360. Our impairment findings with respect to DS1, DS3 and dark fiber transport facilities recognize that competing carriers face substantial sunk costs and other barriers to self-deploy facilities and that competitive facilities are not available in a majority of locations, especially non-urban areas.[1098] The record further indicates, however, that competitive DS1, DS3, and dark fiber transport facilities are available on a wholesale basis in some areas, and that competing carriers have deployed their own transport networks in some areas. Because the record is not sufficiently detailed concerning exactly where these facilities have been deployed, and because the nature of transport facilities requires a highly granular impairment analysis, we establish specific triggers for states to apply in conducting such an analysis. We establish two ways for an incumbent LEC or other party to show where requesting carriers are not impaired without unbundled transport: (1) by identifying specific point-to-point routes where carriers have the ability to use alternatives to the incumbent LEC's network, or (2) by identifying specific point-to-point routes where self-provisioning transport facilities is economic. We delegate to state regulators the authority to make findings of fact within the scope of these triggers to identify on a more granular scale where carriers are not impaired without access to incumbent LEC unbundled transport. In addition to allowing a more precise finding of

[1096] As discussed below, OCn transport refers both to a capacity and technical distinction based on fiber optic technology. *See infra* para. 372.

[1097] Dark fiber transport facilities, as discussed below, are transport facilities without any activated electronics. *See infra* para. 381.

[1098] We note that through the application of our new impairment standard to high-capacity transport, including impairment analyses based on each particular capacity level, we have considered evidence raised by joint petitioners in the High-Capacity Loop and Transport Petition. *See* High-Capacity Loop and Transport Petition. Because we base our unbundling obligations with respect to transport on our findings of impairment and non-impairment according to our new impairment standard, we dismiss the High-Capacity Loop and Transport Petition as moot.

impairment, our analysis provides a roadmap for deregulation where regulation does not serve the goals of the Act.[1099]

2. Background

361. Dedicated interoffice transmission facilities (transport) are facilities dedicated to a particular customer or competitive carrier that it uses for transmission among incumbent LEC central offices and tandem offices.[1100] Competing carriers generally use interoffice transport as a means to aggregate end-user traffic to achieve economies of scale. They do so by using dedicated transport to carry traffic from their end users' loops, often terminating at incumbent LEC central offices, through other central offices to a point of aggregation. Ultimately, the traffic is carried to the competitor's switch or other equipment, often from an incumbent LEC central office along a circuit generally known as an entrance facility.

362. The definition of dedicated transport adopted by the Commission in the *UNE Remand Order* broadly applied to all technically feasible capacity levels between incumbent LEC wire centers, or between switches owned by incumbent LECs or requesting telecommunications carriers.[1101] Although the *UNE Remand Order* defined transport broadly, the record reveals that the availability of these facilities has been limited in a number of ways. First, although the Commission determined that requesting carriers are impaired without access to entrance facilities,[1102] availability has been very limited as a practical matter because new facilities often must be constructed to deploy this circuit.[1103] Second, CMRS providers have demanded, and incumbent LECs have denied, access to unbundled transmission circuits.[1104] Third, some incumbent LECs have interpreted commingling and use restrictions to further limit

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[1099] In contrast, in the *Local Competition Order* and *UNE Remand Order*, despite observing that competitive transport facilities were available in many locations, the Commission concluded that incumbent LECs must provide interoffice transmission facilities, including dedicated and shared transport, on an unbundled basis to requesting carriers, practically without limit. *Local Competition Order*, 11 FCC Rcd at 15717, para. 439; *UNE Remand Order*, 15 FCC Rcd at 3842, para. 321; *see also Shared Transport Order*, 12 FCC Rcd at 12475, para. 25.

[1100] We refer generically to "transport" in this Part as meaning dedicated transport. We address shared transport in Part VI.E. of this Order.

[1101] The Commission defined dedicated transport as "incumbent LEC transmission facilities including all technically feasible capacity-related services including, but not limited to, DS1, DS3 and OCn levels, dedicated to a particular customer or carrier, that provide telecommunications between wire centers owned by the incumbent LECs or requesting telecommunications carriers, or between switches owned by incumbent LECs or requesting telecommunications carriers." 47 C.F.R. § 51.319(d)(1)(i).

[1102] *See UNE Remand Order*, 15 FCC Rcd at 3851-52, paras. 347-48.

[1103] For a detailed discussion of limitations on new facilities construction, see our discussion of this aspect of network modifications at Part VII.D below. *See also Supplemental Order*, 15 FCC Rcd at 1760, para. 4 & n.5 (discussing a limitation on converting entrance facilities from incumbent LEC special access to unbundled transport).

[1104] We address CMRS carrier access to unbundled transport more fully below.

the ability of carriers to obtain unbundled transport facilities.[1105] Finally, incumbent LECs have denied requesting carriers access to transport using SONET technology.[1106]

363. Reviewing courts have considered the Commission's broad network element definitions and unbundling requirements. The Supreme Court stated that the Commission's impairment analysis "cannot, consistent with the statute, blind itself to the availability of elements outside the incumbent LEC's network."[1107] More recently, the D.C. Circuit questioned how the Commission could find that an element like transport "is significantly deployed on a competitive basis," but remains available as an unbundled element from the incumbent LEC.[1108] In both *Iowa Utilities Board* and *USTA*, the courts were reviewing broad unbundling requirements for transport that made little to no distinction in capacity, geography, or customer class.

364. In the *Triennial Review NPRM*, the Commission sought comment on how to analyze impairment for transport, especially in light of the manner in which the Commission's rules have been interpreted by courts and carriers in the industry. Importantly, the Commission sought comment on whether it should refine its unbundling analysis for transport by applying a more granular analysis based on service, geographic, or capacity distinctions.[1109] The Commission also invited comments and "proposals for guidelines or bright-line rules that would provide sufficient guidance [to] all parties involved to minimize disputes arising from implementation of unbundling requirements adopted in this proceeding."[1110]

3. Definition of Dedicated Transport

365. We limit our definition of dedicated transport under section 251(c)(3) to those transmission facilities connecting incumbent LEC switches and wire centers within a LATA.[1111] The Commission previously defined dedicated transport as:

[1105] For further discussion of the Commission's previous use and commingling restrictions, *see* Part VII.A. *infra*.

[1106] BellSouth Comments at 56; *see also UNE Remand Order*, 15 FCC Rcd at 3843, para. 324. SONET is an optical interface standard for translating electronic communications signals into photonic signals for transmission across fiber optic facilities. Ideally, SONET transmission systems are laid out in a ring formation to provide redundancy. *See* NEWTON'S TELECOM DICTIONARY 684-86 (18th ed. 2002).

[1107] *Iowa Utils. Bd.*, 525 U.S. at 389. The Court intimated that the Commission should consider when elements can be "self-provision[ed]" or "purchas[ed] from another provider." *Id.*

[1108] *USTA*, 290 F.3d at 422.

[1109] *Triennial Review NPRM*, 16 FCC Rcd at 22810, para. 64.

[1110] *Id.* at 22811, para. 65.

[1111] Section 271 of the Act prohibits BOCs from providing in-region interLATA services unless the BOC meets very specific requirements, but transport and other services are permitted within a LATA without meeting such requirements. *See* 47 U.S.C. § 271. Therefore, we find that LATA boundaries serve as a reasonable limitation on the scope of BOC obligations to unbundle transport.

> incumbent LEC transmission facilities dedicated to a particular customer or carrier that provide telecommunications *between wire centers owned by incumbent LECs or requesting telecommunications carriers, or between switches owned by incumbent LECs or requesting telecommunications carriers*.[1112]

We conclude that our previous definition was overly broad. As we explain in this Part, competitive LECs often use transmission links including unbundled transport connecting incumbent LEC switches or wire centers in order to carry traffic to and from its end users. These links constitute the incumbent LEC's own transport network. However, in order to access UNEs, including transmission between incumbent LEC switches or wire centers, while providing their own switching and other equipment, competitive LECs require a transmission link from the UNEs on the incumbent LEC network to their own equipment located elsewhere. Competitive LECs use these transmission connections between incumbent LEC networks and their own networks both for interconnection and to backhaul traffic. Unlike the facilities that incumbent LECs explicitly must make available for section 251(c)(2) interconnection,[1113] we find that the Act does not require incumbent LECs to unbundle transmission facilities connecting incumbent LEC networks to competitive LEC networks for the purpose of backhauling traffic.

366. We find that a more reasonable and narrowly-tailored definition of the dedicated transport network element includes only those transmission facilities *within* an incumbent LEC's transport network, that is, the transmission facilities between incumbent LEC switches.[1114] Because the Act does not provide guidance on which transmission facilities should be included in the definition of the transport network element, we believe we have discretion to adopt a definition that is in keeping with the section 251's goal of opening the incumbent LEC's local network to competition. We find that transmission facilities connecting incumbent LEC switches and wire centers are an inherent part of the incumbent LECs' local network Congress intended to make available to competitors under section 251(c)(3). On the other hand, we find that transmission links that simply connect a competing carrier's network to the incumbent LEC's network are not inherently a part of the incumbent LEC's local network. Rather, they are transmission facilities that exist *outside* the incumbent LEC's local network. Accordingly, such transmission facilities are not appropriately included in the definition of dedicated transport. We

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[1112] *Local Competition Order*, 11 FCC Rcd at 15718, para. 440, *reaffirmed in UNE Remand Order*, 15 FCC Rcd at 3842, paras. 322-23 (emphasis added); *see* 47 C.F.R. § 51.319(d)(1)(i); *see* NuVox *et al*. Reply at 34-36 (noting that the Commission's rules explicitly unbundle transmission facilities connecting incumbent LEC switches or wire centers with competitive LEC switches).

[1113] Specifically, section 251(c)(2) requires access to "the facilities and equipment" used by competing carriers for "interconnection with the local exchange carrier's network . . . for the transmission and routing of telephone exchange service and exchange access . . . ." The *Local Competition Order* discussed the relationship between sections 251(c)(2) and 251(c)(3) only to the extent that the obligation under section 251(c)(3) "allows unbundled elements to be used for a broader range of services than subsection (c)(2) allows for interconnection." *Local Competition Order*, 11 FCC Rcd at 15636-37, para. 270.

[1114] For further discussion of the Commission's definition of "network elements," see *supra* Part V.A.

note that a previous Commission reached a different result finding that, because unbundling this type of transmission facility is "technically feasible" and "will reduce entry barriers into the local exchange market," it was appropriate to include such facilities within the definition of dedicated transport.[1115] We find that this approach was misguided. The standard for unbundling is not "technical feasibility" and, moreover, just because a facility is capable of being unbundled does not mean that it is appropriately considered to be a network element for purposes of section 251(c)(3). We find that the more reasonable approach, and the one that is most consistent with the goals of section 251, is to not consider those facilities outside of the incumbent LEC's local network as part of the dedicated transport network element that is subject to unbundling.[1116] In reaching this determination we note that, to the extent that requesting carriers need facilities in order to "interconnect[] with the [incumbent LEC's] network," section 251(c)(2) of the Act expressly provides for this and we do not alter the Commission's interpretation of this obligation.[1117] Therefore, we find that the dedicated transport network element includes only those "features, functions, and capabilities" of equipment and facilities that coincide with the incumbent LEC's transport network – the transmission links connecting incumbent LEC switches or wire centers.[1118]

367. Our conclusion in this respect is buttressed by the fact that the economics of dedicated facilities used for backhaul between networks are sufficiently different from transport within an incumbent LEC's network that our analysis must adequately reflect this distinction. Competing carriers have control over where to locate their network facilities to minimize self-deployment costs, or the costs of using third-party alternatives for transport from the incumbent LEC's network.[1119] These backhaul facilities from incumbent LEC networks to competitors' networks are distinguished from other transport facilities because competing carriers have some control over the location of their network facilities that is lacking with regard to transport as we define it here. Competing carriers control, in part, how they design and locate their networks, as

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[1115] *Local Competition Order*, 11 FCC Rcd at 15718-19, paras. 440-43.

[1116] Our determination here effectively eliminates "entrance facilities" as UNEs and, therefore, moots the Commission's *Fourth Further NPRM* insofar as it proposes limitations on obtaining entrance facilities as UNEs. *UNE Remand Order*, 15 FCC Rcd at 3914-15, paras. 492-96 (setting forth the *Fourth Further NPRM*). We note that the terms of the *Fourth Further NPRM* were expanded to include unbundled loop/transport combinations in addition to entrance facilities. *See generally Supplemental Order*, 15 FCC Rcd 1760; *Supplemental Clarification Order*, 15 FCC Rcd 9587. We address issues related to unbundled loop/transport combinations *infra* Part VII.A.

[1117] Section 251(c)(2) requires access to "the facilities and equipment" used by competing carriers for "interconnection with the local exchange carrier's *network* . . . for the transmission and routing of telephone exchange service and exchange access." 47 U.S.C. § 251(c)(2) (emphasis added).

[1118] *Id*. § 153(29).

[1119] Although we are not in this subsection conducting an impairment analysis, we find that this economic difference significantly distinguishes our analysis of intra-incumbent LEC transmission facilities – which we define to be transport – from inter-network transmission facilities used for backhaul. *See supra* Part V.B. (discussing the impairment standard).

opposed to obtaining a connection between two incumbent LEC wire centers.[1120] For instance, a competing carrier can choose to locate its switch very close to an incumbent LEC wire center to minimize costs associated with deploying fiber over longer distances. Similarly, a competing carrier can choose to locate its network equipment, such as its switch, near other competing carriers to share costs, or near existing competitive fiber providers that have already deployed competitive transport facilities.[1121] Competing carriers have no such choice in seeking to obtain transport within the network of incumbent LECs. We also note that transmission facilities used for backhaul from an incumbent LEC office to a competitive LEC network often represents the point of greatest aggregation of traffic in a competing carrier's network, and such carriers are more likely to self-deploy these facilities because of the cost savings such aggregation permits.[1122] Moreover, we find that our more limited definition of transport is consistent with the Act because it encourages competing carriers to incorporate those costs within their control into their network deployment strategies rather than to rely exclusively on the incumbent LEC's network.[1123]

[1120] The Commission recognized this principle in the *Local Competition Order* in its discussion of the choices competing carriers make in choosing an efficient point of interconnection. *See Local Competition Order*, 11 FCC Rcd at 15608, para. 209.

[1121] Additionally, the BOCs describe "collocation hotels" as points of telecommunications traffic aggregation used by multiple carriers and ISPs to interconnect with each other. These collocation hotels are often located very close to an incumbent LEC central office for carriers to connect to the incumbent LEC's network. BOC UNE Fact Report 2002 at III-4 through III-5; *see also* Verizon Jan. 10, 2003 UNE-P *Ex Parte* Letter at 6 (describing the choice competitors have in the location of their network facilities when entering a market); WorldCom Reply at 130 ("Collocation hotels are useful places for carriers and very large customers to meet."). We find that collocation hotels, however, do not provide a substitute for the need to access within an incumbent LEC's network. *See* WorldCom Reply at 130.

[1122] Competing carriers agree that the most competitive type of transport is the link between an incumbent LEC wire center and a competitor's network. *See* Letter from Ruth Milkman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 7 (filed Nov. 18, 2002) (WorldCom Nov. 18, 2002 EELs *Ex Parte* Letter) (asserting that because "entrance facility" deployment is so pervasive, incumbent LEC special access pricing closely mirrors UNE rates); Letter from Patrick J. Donovan, Counsel for Cbeyond, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Declaration of Richard Batelaan at para. 10 (filed Nov. 22, 2002) (Cbeyond Nov. 22, 2002 Transport *Ex Parte* Letter) (stating that "alternative provider [transport] facilities are typically used between Cbeyond's non-ILEC collocation point of presence ("POP") and the ILEC tandem office or offices where Cbeyond aggregates traffic.").

[1123] Finally, we do not want to delay the further development of intermodal solutions, such as point-to-point microwave, that competing carriers may use to hub traffic back to a common location. Some CMRS carriers state that they are able to use point-to-point microwave as an alternative to incumbent LEC transmission facilities on some routes. Nextel Comments at 6-7; Letter from Michael H. Pryor, Counsel for AT&T Wireless, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 11 (filed Jan. 7, 2003) (ATTWS Jan. 7, 2003 *Ex Parte* Letter) (approximately 4% of ATTWS transport links are microwave). We note that these carriers cite limitations on microwave including the need for zoning approval for towers, licensing, limited space on cell towers, and reliability concerns. *Id*. As a result, this type of self-provisioning is "not common." Nextel Comments at 6-7; *see* ATTWS Jan. 7, 2003 *Ex Parte* Letter, Attach. at 11.

368. We note that this change in definition applies to all competitors alike, including intermodal competitors. We find that no requesting carrier shall have access to unbundled inter-network transmission facilities under section 251(c)(3). Thus, assuming *arguendo*, that a CMRS carrier's base station is a type of requesting carrier switch, CMRS carriers are ineligible for dedicated transport from their base station to the incumbent LEC network.[1124] However, all telecommunications carriers, including CMRS carriers, will have the ability to access transport facilities *within* the incumbent LEC's network, pursuant to section 251(c)(3), and to interconnect for the transmission and routing of telephone exchange service and exchange access, pursuant to section 251(c)(2).[1125]

369. We find that this technology-neutral approach best comports with the statute, suits the development of intermodal competition, and recognizes the role of the requesting carrier in controlling the costs associated with where to locate its network. Accordingly, we limit the dedicated transport network element to those incumbent LEC transmission facilities dedicated to a particular customer or carrier that provide telecommunications between switches or wire centers owned by incumbent LECs.[1126] We conduct our impairment analysis based on this definition of the transport network element.

4. Impairment Analysis

a. General Economic and Operational Characteristics of Transport

370. Competing carriers generally use dedicated transport as a means to aggregate end-user traffic to achieve economies of scale. Such transport carries their traffic within the incumbent LEC's network through the incumbent LEC's central offices to a point of aggregation. As noted above, ultimately, the traffic is carried to the competitor's switch, or other equipment, from an incumbent LEC central office along an inter-network facility often known as an entrance facility. When carriers self-deploy transport facilities, they typically deploy fiber

[1124] Our decision moots the ATTWS/VoiceStream Petition to the extent that it requests that CMRS carriers have access to unbundled transport facilities from an incumbent LEC wire center to a CMRS base station or mobile switching center (MSC). ATTWS/VoiceStream Petition at 19-26.

[1125] Accordingly, to the extent that the Petition for Declaratory Rulemaking filed by AT&T Wireless and VoiceStream requests that unbundled transport be available to CMRS carriers, that portion of the Petition is moot. ATTWS/VoiceStream Petition at 5-19; *see also Triennial Review NPRM*, 16 FCC Rcd at 22809-10, para. 63.

[1126] We recognize that incumbent LECs may "reverse collocate" in some instances by collocating equipment at a competing carrier's premises, or may place equipment in a common location, for purposes of interconnection. *See, e.g.*, Letter from Steven A. Augustino, Counsel for SNiP LiNK, to William Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-3 (filed Feb. 5, 2003) (SNiP LiNK Feb. 5, 2003 Reverse Collocation *Ex Parte* Letter). However, to the extent that an incumbent LEC has local switching equipment, as defined by the Commission's rules, "reverse collocated" in a non-incumbent LEC premises, the transmission path from this point back to the incumbent LEC wire center shall be unbundled as transport between incumbent LEC switches or wire centers to the extent specified in this Part.

rings that may connect several incumbent LEC central offices in a market.[1127] On these rings, carriers aggregate end-user traffic for backhaul to their switch, or other equipment, in a similar manner to the way in which carriers do in using incumbent LEC facilities. However, these fiber rings are often deployed to maximize the ability of competitors eventually to deploy loop facilities to connect directly buildings and customers to the transport fiber ring, without accessing unbundled loops at an incumbent LEC central office.[1128]

371. Deploying transport facilities is an expensive and time-consuming process for competitors, requiring substantial fixed and sunk costs.[1129] Most competing carriers' comments have focused on the costs of self-deploying transport facilities. Among the costs associated with self-deployment of transport facilities are collocation costs,[1130] the cost of fiber, the cost of physically deploying the fiber,[1131] and the cost of the optronics necessary to light the fiber.[1132] Moreover, parties have explained that carriers deploying fiber facilities must obtain rights-of-way, which can delay deployment. While we find that substantial sunk costs are required to deploy transport, the economic characteristics of transport vary from those of loops.[1133]

[1127] *See* KMC Duke Aff. at para. 3 (stating that KMC typically invests in a local SONET network and collocates at three incumbent LEC offices, including the tandem); Letter from Joan Marsh, Director - Federal Government Affairs, AT&T to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 5-8 (filed Oct. 4, 2002) (AT&T Oct. 4, 2002 *Ex Parte* Letter) (describing how AT&T deploys "metro rings").

[1128] For example, KMC designs its networks to reach 80% of the commercial buildings in each local market that it serves by either direct "on-net" service, or by using unbundled loops aggregated at incumbent LEC offices. KMC Duke Aff. at para. 3. Of the 80% of total buildings KMC is able to reach, over 36% can be reached "on-net," indicating that KMC's fiber ring deployment is significantly designed to bypass the incumbent LEC loop network where possible, rather than simply mirroring the incumbent LEC's transport network connecting incumbent LEC wire centers. *Id.*; AT&T Nov. 25, 2002 *Ex Parte* Letter, Attach. B at 1-2 (describing local "building rings" that are approximately 30 miles each and connect 10-15 buildings).

[1129] *See* WorldCom Comments at 77 (extending WorldCom's transport network to an additional incumbent central office generally costs at least $1 million); AT&T Nov. 25, 2002 *Ex Parte* Letter, Attach. A.

[1130] *See* AT&T Comments at 145. We note that the Commission's collocation rules define the statutory duties of incumbent LECs to allow competitive LECs to collocate in incumbent LEC premises. *See Collocation Remand Order*, 16 FCC Rcd at 15435.

[1131] *See, e.g.*, Conversent Comments, Exh. 1, Declaration of David A. Graham (Conversent Graham Decl.) at para. 30 (estimating the costs of deploying fiber to replicate its unbundled dark fiber network).

[1132] *See* ALTS *et al*. Comments at 73; AT&T Nov. 25, 2002 *Ex Parte* Letter, Attach. A at 6 (stating that "relatively little equipment" is required to be placed in a collocation arrangement for interoffice transport including "optical path panels (to terminate and cross-connect the fiber facility), optical multiplexers, and power distribution (*e.g.*, power filtering and fuses) equipment.").

[1133] Like loops, transport costs (aside from attached electronics) are substantially sunk insofar as the facility cannot be moved to another location upon exit from the market. However, because transport facilities typically connect points of network traffic aggregation, the sunk costs of transport are different from the sunk cost of deploying loops (especially lower capacity loops) because the carrier is less dependent upon maintaining any particular customer relationship, but rather must maintain an aggregate level of traffic sufficient to justify the costs. Moreover, the facility may be useful to other carriers aggregating traffic at the same location.

Incumbent LECs assert that they face similar fixed costs for deploying fiber as competitive LECs[1134] and that new technologies may reduce the costs of deploying fiber.[1135] The record indicates that deploying fiber is significantly less expensive in rural areas than it is in urban areas[1136] and that how the fiber is deployed affects the cost of deployment.[1137] Competing carriers also explain that deploying transport facilities can take a long period of time.[1138] The record indicates that obtaining rights-of-way delays entry and imposes sunk costs on competitive LEC efforts to deploy transport.[1139]

372. Carriers have developed and continue to operate copper technologies as well as fiber optic transmission technologies, such as SONET, to transport telecommunications signals.[1140] When carriers deploy new transport facilities, they deploy fiber optic facilities.[1141]

[1134] Verizon Comments at 110 n.380.

[1135] BOC UNE Fact Report 2002 at III-8 (describing CityNet's process for deploying fiber through utility pipes rather than trenching to bury fiber cables).

[1136] *See, e.g.*, Letter from Lawrence R. Freedman, Counsel for Norlight, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 3 (filed Dec. 30, 2002) (Norlight Dec. 30, 2002 *Ex Parte* Letter) (noting that deployment in rural areas is faster and less costly because cabling can be run on poles and does not need to be buried); WorldCom Fleming Decl. at para. 18 (stating that deploying fiber in urban and suburban areas is costlier than in rural areas because trenching requires digging up and then repairing streets and sidewalks).

[1137] El Paso *et al*. Comments at 21 (indicating that placing fiber underground can cost $100,000 to $300,000 per mile while placing fiber on poles can cost $50,000 per mile and placing fiber in pipelines costs $10,000 to $60,000 per mile); Conversent Graham Decl. at para. 30 (estimating the costs in Massachusetts of underground fiber deployment where conduit is not available at $485,812.80 per mile and aerial fiber deployment at $44,915.40 per mile).

[1138] For instance, obtaining permits may take 2 weeks to 90 days. TDS Comments, CC Docket No. 96-98, at 6 (filed June 11, 2001) (TDS June 11, 2001 High-Capacity Comments); Verizon Comments at 111 n.385. Obtaining necessary rights-of-way likely takes 4-6 months. AT&T Comments at 144. Building the actual fiber facilities takes approximately 6-9 months. Sprint Comments at 46. Fiber can be deployed in a buried manner in rural areas at a rate of several miles per day, in suburban areas, at a rate of up to a half a mile per day, while in urban areas, daily construction averages only a few hundred feet. In total, WorldCom estimates that constructing fiber transport facilities takes nine months to obtain the rights-of-way, collocation application, and equipment, while it takes five months to build fiber, construct the collocation, install, and test equipment. Letter from Ruth Milkman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 12 (filed Nov. 18, 2002) (WorldCom Nov. 18, 2002 Transition to UNE-L *Ex Parte* Letter).

[1139] *See, e.g.*, AT&T Comments at 142-44. *See supra* Part V.B.1.d.(i). (discussing the first-mover advantages possessed by incumbent LECs); *but see* Verizon Comments at 110 & n.380 (asserting that incumbent LECs can face similar fixed costs for deploying fiber as competitive LECs); BOC UNE Fact Report 2002 at III-8 (describing stating that new technologies are emerging that may reduce the costs and delays associated with deploying fiber).

[1140] *See infra* note 1106 (describing SONET).

[1141] For instance, AT&T discusses the low capacity limitations of copper facilities and states that virtually all incumbent LEC transport facilities are fiber. AT&T Comments at 132-34 (citing AT&T Comments, CC Docket No. 98-147, Declaration of Joseph P. Riolo at paras. 18-19 (filed Oct. 11, 2001)) (describing the technological progression from copper to optical transport facilities).

The optical circuits operate and interface at a range of capacities, up to OC192.[1142] This variation in capacity is almost exclusively based on the attached optronic equipment used to activate or light the fiber optic cable.[1143] Each increasing capacity level technology, while nominally a multiple of a lower capacity system, requires a slightly different interface. Effectively, an OC3 capacity circuit carries the same capacity as three DS3 circuits, but an OC3 circuit terminates on a different technological interface. Incumbent LECs generally operate their interoffice transport networks at OCn capacity levels.[1144] When transport is leased as an unbundled element to competing carriers, for example, a DS3 capacity circuit, the leased dedicated circuit is channelized within the larger OCn circuit operated by the incumbent LEC.[1145] Therefore, competing carriers are not necessarily leasing physically separate facilities, but rather, dedicated bandwidth capacities along a given route.[1146] However, through electronic equipment such as multiplexers and de-multiplexers, the circuit is provided to the requesting carrier at the requested capacity on the relevant interface, such as a DS3 interface.

373. As we have discussed, transport facilities generally are used to carry traffic aggregated from multiple customers, or even multiple carriers, within an incumbent LEC's network and, thus, the economics of transport facilities can be well-suited to a wholesale business. There are costs to carriers associated with using transport provided on a wholesale basis by third party competitive transport providers. Because a competitive transport provider may not always offer facilities that mirror the market a competing carrier serves, a competing carrier may have to make arrangements with multiple providers, thus raising its costs. Also, if a point-to-point route along which a carrier seeks transport can only be served by a combination of different competitive transport providers, commenting parties assert that service quality, especially testing for maintenance and repair, becomes much more difficult to maintain.[1147] Finally, for a collocated competing carrier to access the transport facilities terminated in the collocation arrangement of another carrier, a cross-connect must be provisioned between collocation arrangements.[1148]

[1142] *See supra* Part VI.A.4.b.(ii) (discussing capacity distinctions with respect to enterprise loops).

[1143] AT&T Comments at 130.

[1144] AT&T asserts that most carriers, including incumbent LECs, typically operate their transport networks at the OC48 capacity. AT&T Comments at 134.

[1145] *See* WorldCom Comments at 79; Covad Joshi *et al*. Decl. at paras. 46-48.

[1146] To the extent CompTel petitioned the Commission for access to packetized transport, we find CompTel's petition to be mooted by our decision today. CompTel Feb. 17, 2000 Petition for Reconsideration at 5-10.

[1147] Letter from Jonathan Askin, General Counsel, ALTS, and Jonathan Lee, Vice President – Regulatory Affairs, CompTel, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 3 & Attach. A (filed Oct. 28, 2002) (ALTS/CompTel Oct. 28, 2002 Transport *Ex Parte* Letter) (describing the problems associated with piecing together transport from different vendors along a single route). For further discussion of this issue with respect to our route-specific triggers, *see infra* paras. 401-402.

[1148] *See Collocation Remand Order*, 16 FCC Rcd at 15465, para. 58.

374. Collocation costs need not be a factor for every competing carrier. Firms that deploy competitive transport facilities have the ability to obtain UNEs, such as loops, for the purpose of providing a wholesale product on a common carrier basis.[1149] Therefore, competing carriers may be able to avoid the costs of collocating in central offices in which their competitive transport provider is able to access end-user loops. We also note, to the extent incumbent LECs want to remove their unbundling obligation for DS1, DS3, and dark fiber transport, they have an incentive to allow alternate transport providers to collocate in their central offices for the purposes of providing alternative transport.[1150]

375. Unlike our analysis of certain other elements, we do not make distinctions in analyzing transport based on different customer classes. While the characteristics of serving different market classes (*i.e.*, mass market and enterprise markets) may provide a rough understanding of the how carriers use transport, the characteristics do not necessarily inform when a carrier is impaired without access to unbundled transport.[1151] Because mass market customers provide low revenue per customer relative to enterprise customers, competitors serving the mass market customer class achieve economies of scale by aggregating traffic from multiple incumbent LEC loops, often from several incumbent LEC central offices, to their switches.[1152] Carriers serving enterprise customers, on the other hand, can typically serve a more geographically concentrated area. They are more certain of recovering costs associated with self-providing transport facilities, and are able to achieve economies of scale by aggregating traffic from loops serving many fewer end users. These factors, principally the ability to aggregate greater quantities of traffic, make the self-provisioning of facilities more economically feasible for competing carriers serving enterprise customers than carriers serving the mass market customer class. Because customer class distinctions do not help refine our unbundling analysis of transport facilities, however, we do not develop an unbundling framework for transport based on such distinctions.

376. Instead, we organize our analysis of transport based on capacity level because it is a more reliable indicator of the economic abilities of a requesting carrier to utilize third-party alternatives, or to self-deploy. At the same time, we recognize that operational and economic concerns, though of lesser significance, will vary depending on the geographic market served. We find that the extent of competitive deployment of transport facilities can vary tremendously

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[1149] *See supra* Part V.B.2.c.

[1150] *See* our discussion *infra* Part VI.C.4.d for a more detailed discussion of this incentive.

[1151] For instance, a carrier serving the mass market customer class may achieve very high levels of loop concentration in an area enabling it to justify transport facilities deployment while a carrier serving a single enterprise customer in an area with a DS1 loop faces different economic costs per customer to backhaul its loop traffic to its switch. Moreover, because transport facilities are used to carry aggregated traffic, competing carriers may utilize the same transport facility to carry loop traffic serving both the mass market and enterprise customer classes.

[1152] To date, competing carriers serving the mass market have relied most extensively on shared transport, used in combination with unbundled switching.

by geographic area. More specifically, the barriers to entry that requesting carriers face are most precisely identified on each geographic route connecting two points.[1153] Where our record permits, however, we distill general characteristics of transport routes on a national level sufficient to make nationwide determinations of impairment and non-impairment. Where the record indicates impairment and that only with more granular evidence could a finding of non-impairment be made, we establish triggers to identify non-impairment based on route-specific evidence.

377. For these reasons, a reliable measure of the ability of competing carriers to incur additional costs related to obtaining transport from an alternative provider, or self-providing, is based on the capacity competing carriers require along a transport route.[1154] Because a carrier using higher capacity levels of transport has a greater incentive and broader revenue base to support the self-provisioning of transport facilities, we adopt an approach to analyzing transport that considers different capacity levels.[1155] We expressly consider the ability of competing carriers to self-provision transport facilities, as well as the ability to manage the fixed costs associated with using competitive alternatives, based on different transport capacity levels.[1156]

b. Record Evidence

378. The record indicates that competing carriers have deployed significant amounts of fiber transport facilities to serve local markets. The BOCs claim that competitors have deployed over 184,000 route miles of fiber.[1157] An ALTS report claims that competitors have deployed

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[1153] *See infra* paras. 401-402 (further discussing our route-specific analysis).

[1154] The *Triennial Review NPRM* asks whether the Commission should pursue distinctions based on facilities in order to refine its unbundling analysis. *Triennial Review NPRM*, 16 FCC Rcd at 22800-01, 22804-05, 22809, paras. 41, 51, 62. A single voice-grade circuit can be digitized to its equivalent digital capacity of DS0. A DS1 capacity circuit carries the traffic equivalent to 24 voice-grade or DS0 channels. A DS3 capacity circuit contains the equivalent of 28 DS1 channels or 672 DS0 channels. An OC3 circuit equals the capacity of three DS3 circuits, or 84 DS1 circuits, or 2016 DS0s. Effectively, each OCn capacity interval indicates the capacity of the equivalent number of DS3 circuits – for example, an OC48 circuit has the capacity equivalent to 48 DS3 circuits.

[1155] As WorldCom states, "for any given amount of traffic, the cost per unit of traffic will be lower where larger amounts of traffic can be aggregated and carried a short distance." WorldCom Reply at 122; WorldCom Bryant Reply Decl. at para. 16. Thus, competitive carriers with lower amounts of traffic aggregation, such as new market entrants, face economies of scale that can act as a barrier to entry.

[1156] In the *UNE Remand Order*, the Commission found that access to all technically feasible transport capacities, such as DS1, DS3, and OCn capacities, and would promote competition in the local exchange market. *UNE Remand Order*, 15 FCC Rcd at 3842-43, paras. 321-23; *see also Local Competition Order*, 11 FCC Rcd at 15717-18, para. 439.

[1157] *See* BOC UNE Fact Report 2002 at III-6 & nn.26-27 (asserting the number to be highly conservative as it does not include fiber miles deployed by "competitive Independent Operating Companies, utility CLECs, data providers, or Gig-E providers" and maintaining that the figure has been adjusted downward to address competitive LEC comments made during a prior proceeding); UNE Fact Rebuttal Report at 41-42 (addressing comments claiming that some of the reported route miles were long-haul fiber miles).

over 339,500 route-miles.[1158] The record also indicates that much of this deployment has occurred in more densely populated areas.[1159] According to the BOC Fact Report, competitive LECs have built fiber to approximately 13 percent of BOC wire centers.[1160] However, in the 25 largest metropolitan areas served by each BOC, competitive LECs have built fiber to 35 percent of wire centers, which provide access to 61 percent of the incumbent LECs' lines.[1161] Moreover, at least one competitor has deployed fiber to BOC wire centers with more than 5,000 business lines 48 percent of the time, providing access to 84 percent of all business lines.[1162] Even competing carriers recognize that they have available to them along many routes alternatives to the incumbent LEC's transport. In fact, a variety of carriers state that they have at least one alternative transport provider available to them on a range from 20 percent to over 50 percent of their routes.[1163]

379. The record also indicates that fiber transport facilities have been deployed by firms other than incumbent LECs with the intention of solely or partially providing wholesale transport capacity as well as dark fiber transport to other carriers.[1164] These carriers continue to

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[1158] *See* SBC Reply at 143 (citing ALTS, THE STATE OF LOCAL COMPETITION 2002, Annual Report (Apr 2002) at 17).

[1159] The Commission has previously noted that competing carriers "have deployed interoffice transport along selected point-to-point routes, primarily in dense market areas." *UNE Remand Order*, 15 FCC Rcd at 3846-47, para. 333. Indicia of widespread fiber deployment is most prominent in the largest metropolitan areas and connections to the largest incumbent LEC wire centers. BOC UNE Fact Report 2002 at III-2 to III-3 & Tables 1-3.

[1160] BOC UNE Fact Report 2002 at III-2, Table 1; *see* BellSouth Jan. 17, 2003 *Ex Parte* Letter, Attach. at 5, 7 (identifying 1018 fiber-based collocation arrangements in the BellSouth region). The BOCs also present evidence, supported by the record, that competitive LEC local fiber facilities often bypass the incumbent LEC network at least partially. *Id*. at III-4. For example, AT&T describes how it deploys fiber "building rings" in order to directly connect enterprise customers to its network, bypassing the incumbent LEC's loop facilities. AT&T Nov. 25, 2002 Loop and Transport Costs *Ex Parte* Letter, Attach. B.

[1161] BOC UNE Fact Report 2002 at III-3, Table 2.

[1162] *Id.* at Table 3.

[1163] *See* Broadview Aug. 2, 2002 *Ex Parte* Letter, Attach. at 14 (Broadview able to order alternative interoffice transport 20% of the time); Covad Comments at 67-68; Covad Comments, CC Docket No. 96-98 at 8 (filed June 11, 2001) (Covad June 11, 2001 High-Capacity Comments) (competitors have terminated non-incumbent fiber in their collocation arrangements in over 51% of the incumbent central offices in which Covad also collocates); Mpower Reply at 13-16 (competitors have terminated non-incumbent fiber in their collocation arrangements in over 51% of the incumbent central offices in which Mpower also collocates); Allegiance Comments at 28 (Allegiance self-provides or leases alternative transport facilities for 30% of its routes). These carriers do not propose that where only one alternative exists, they do not face impairment for unbundled transport. These numbers have not been provided in a consistent format.

[1164] BOC UNE Fact Report 2002 at III-6 through III-11 (describing "carrier-agnostic" wholesale suppliers and CAPs); Coalition of Competitive Fiber Providers Reply, at 1-2 ("Coalition members provide competitive fiber-based transport services and dark fiber to competitive local exchange carriers . . . collocated in ILEC central offices.").

deploy local fiber facilities today.[1165] The record also indicates that multiple carriers often coordinate a single transport construction project to share the one-time costs of deployment.[1166] Moreover, we note that competitive carriers seek to use existing alternatives to incumbent LEC transport facilities, including dark fiber purchases of competitive transport facilities.[1167] Therefore, it is likely that the costs of transport deployment need not be borne by a single carrier, but rather can be shared by multiple carriers.

c. Capacity-Based Impairment Analysis

380. As described above, we conduct our impairment analysis of transport on a capacity basis as we find this to be the most informative manner to review the economic barriers to entry that affect how a competing carrier is impaired without access to unbundled transport. Thus, we analyze transport according to different capacities and make findings of impairment or non-impairment based on the record.

(i) Dark Fiber Transport

381. We find on a national basis that competing carriers are impaired without access to unbundled dark fiber transport. Dark fiber is unactivated fiber optic cable, deployed by a carrier, that has not been activated through connections to optronics that light it, and thereby render it capable of carrying communications.[1168] Once supplied with the proper optronics and activated, dark fiber transport is used by carriers for the same purposes as lit dedicated transport. We make our determination of impairment based on the high sunk costs associated with deploying fiber facilities and the lack of evidence showing on a route-specific basis alternative fiber facilities. The same economic factors and barriers, especially the sunk cost of deploying fiber, that affect the ability of carriers to self-deploy lit transport apply equally to dark fiber transport. We address dark fiber separately from OCn transport because commenting parties identify some operational characteristics that distinguish dark fiber transport from lit transport.[1169] Dark fiber

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[1165] *See* UNE Fact Rebuttal Report at 41-43.

[1166] AT&T Fea/Giovannucci Reply Decl. at para. 28 ("AT&T often engages in joint builds with other CLECs in order to share the high fixed costs of construction."). While AT&T reports that financial problems with building partners have proved troublesome, AT&T states that partners are often willing to make "significant payments toward construction costs" which can mitigate the up front fixed costs incurred by the lead partner actually constructing the facility. *Id*.

[1167] *See* Allegiance Comments at 28; Conversent Comments at 8-9.

[1168] *UNE Remand Order*, 15 FCC Rcd at 3776, 3843, paras. 174, 325. The dark fiber transport element has been defined by the Commission as "incumbent LEC optical transmission facilities without attached multiplexing, aggregation, or other electronics." 47 C.F.R. § 51.319(d)(1)(ii). In the *UNE Remand Order*, the Commission found that dark fiber fits within the definition of "network element" as a "facility or equipment used in the provision of a telecommunications service, including "features, functions, and capabilities that are provided by means of such facility or equipment." *UNE Remand Order*, 15 FCC Rcd at 3844, para. 326.

[1169] *See* El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter, Attach. at 1, 12-14.

transport is activated by competing carriers using self-provided optronic equipment. We find that where carriers are impaired in their ability to self-provision the transmission conduit itself, but are not impaired by the costs of collocation and electronics necessary to activate dark fiber, that unbundled dark fiber most closely addresses the impairment faced by competing carriers.

382. The record indicates that when competing carriers self-deploy transport facilities, they often deploy fiber optic facilities that are activated at OCn levels.[1170] However, this does not mean that a carrier that requires OCn capacity can necessarily self-deploy transport facilities. As we have described above, large fixed and sunk costs are required to self-provision fiber transport facilities.[1171] These fixed and sunk costs include obtaining rights-of-way, the costs of fiber, the cost of deploying the fiber, and the optronic equipment necessary to activate the fiber.[1172] Unlike "lit" unbundled transport, however, users of unbundled dark fiber provide the optronic equipment necessary to activate the dark fiber strands.[1173] While users of unbundled dark fiber provide optronics, the record indicates that a substantial part of the costs of deploying transport facilities is in the sunk cost of burying, or otherwise deploying the fiber.[1174] Moreover, the costs associated with actually deploying the fiber transmission facilities are all sunk costs, such as obtaining rights-of-way, digging up streets or attaching cabling to poles.[1175] Therefore, the barriers to deployment faced by carriers that use unbundled dark fiber are very similar to those of other competing carriers. However, carriers that request dark fiber transport, used to provide relatively high-capacity transport, must purchase and deploy necessary electronics and collocations, thus requiring them to deploy those facilities for which there is no impairment. Our finding of impairment recognizes that the costs of deploying fiber, especially the sunk costs, make self-deployment of transport facilities uneconomic in some situations.

[1170] *See, e.g.*, AT&T Oct. 4, 2002 *Ex Parte* Letter.

[1171] *See supra* para. 371 (describing the costs and barriers to entry associated with deploying transport facilities); *see also* El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter, Attach. at 15-17 (describing the sunk costs associated with fiber deployment).

[1172] *See* El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter, Attach. at 1, 15-17 (describing the electronic equipment a competitive LEC must deploy to activate dark fiber).

[1173] We note that the cost of electronics, such as those used to activate dark fiber, are not sunk costs because they can be moved to another location upon exit from the market.

[1174] AT&T, for example, states that the monthly costs of operating interoffice transport between two collocations is allocated roughly as follows: 50% to the cost of the transport ring, 30% to equipment and other costs, and 20% to collocation. AT&T Oct. 4, 2002 *Ex Parte* Letter, Attach. at 13. Conversent states that it has spent over $30 million in capital costs for purchasing electronics while it estimates that replicating its fiber network in eastern Massachusetts would cost $81 million. Letter from Christi Shewman, Counsel for Conversent, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 2, 5 (filed Sept. 24, 2002) (Conversent Sept. 24, 2002 *Ex Parte* Letter). Similarly, El Paso states that the electronics necessary to light an OC12 loop require $80,000 in capital investment. El Paso Oct. 4, 2002 *Ex Parte* Letter, Attach. *Regulatory Briefing* at 8.

[1175] *See* El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter, Attach. at 1; *see also supra* para. 371.

383. The record also indicates that competing carriers using unbundled dark fiber transport can operate more efficiently than when using lit transport. Conversent and El Paso argue that they can offer a higher level of service because unbundled dark fiber integrates more efficiently into their networks by reducing the number of failure points and by providing them greater control including the ability to test for quality and maintenance.[1176] Commenters also argue that dark fiber more precisely addresses impairment they face in deploying fiber.[1177] We agree that dark fiber allows competing carriers to provide service without incurring the high sunk costs of self-deploying transport, especially when the fiber is not being used by the incumbent LEC. Competing carriers assert that this also avoids unnecessary digging of streets.[1178] Commenters also argue that unbundled dark fiber users must deploy significant facilities including optronic equipment and collocation in order to light the dark fiber.[1179] We find that this investment advances the facilities deployment goals of the Act.[1180]

384. Although the record indicates that dark fiber can be self-provisioned in some circumstances or obtained on a wholesale basis from carriers other than the incumbent LEC, the record does not reveal the specific routes where such transport is available.[1181] In addition, dark fiber transport is generally not available in most areas of the country. In fact, in many areas, competing carriers are unable to self-deploy and have no alternative to the incumbent LEC's facilities.[1182] On the current record, we are unable to identify those specific routes where

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[1176] *See* El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter, Attach. at 1, 12-13. Specifically, dark fiber reduces the number of points of failure within a local transport network and is integrated more easily into the competitor's network. *See id.*; Conversent Comments at 7; Conversent Oct. 10, 2002 *Ex Parte* Letter at 3.

[1177] *See* El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter, Attach. at 1. For example, Conversent asserts that it is not impaired without the electronics needed to activate transport facilities, but is impaired without the actual facilities. *See* Conversent Dec. 24, 2002 *Ex Parte* Letter at 2.

[1178] *See, e.g.*, Stephanie A. Joyce, Counsel for Dominion Telecom, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 4 (filed Jan. 28, 2003) (Dominion Jan. 28, 2003 Dark Fiber *Ex Parte* Letter).

[1179] *See, e.g.*, Letter from Scott Sawyer, Vice President – Regulatory Affairs, Conversent, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 1-3 (filed Dec. 6, 2002) (Conversent Dec. 6, 2002 *Ex Parte* Letter); El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter, Attach. at 1.

[1180] While it could be argued that permitting use of unbundled dark fiber acts as a disincentive to alternative transport deployment by allowing competing carrier to obtain the fiber transport without incurring sunk costs that a self-deploying carrier would incur, we find that, through the application of our triggers, described below, any disincentive effect is minimized.

[1181] *See supra* paras. 378-379 (describing record evidence of competitive LEC transport deployment); NuVox *et al*. Comments, Affidavit of Robert Riordan, (MFN Riordan Aff.) at paras. 2-4; BOC UNE Fact Report 2002 at III-1 to III-14. As discussed, above at para. 376, we find that transport is appropriately reviewed on a route-specific basis.

[1182] Conversent asserts that of its 166 dark fiber transport routes throughout six New England states, alternative dark fiber is available on only 25 routes (approximately 15%). Conversent Sept. 24, 2002 *Ex Parte* Letter, Attach. at 4-5; *see also* Conversent Comments at 8-9.

competing carriers are not impaired without access to unbundled dark fiber.[1183] As we describe below, however, we delegate to the states the authority to collect and analyze more specific evidence of transport deployment on a route-specific basis, applying uniform national triggers that measure self-provisioning or wholesale alternative transport availability to determine routes where competitive carriers are not impaired without access to incumbent LEC unbundled dark fiber transport.[1184]

385. *Access to Dark Fiber*. Because dark fiber requires an incumbent LEC to unbundle whole fibers, the Commission previously granted states "the flexibility to establish reasonable limitations and technical parameters for dark fiber unbundling."[1185] We affirm that conclusion.[1186] Additionally, requesting carriers state that they have been denied nondiscriminatory access to unbundled dark fiber in a number of ways.[1187] We note that many state commissions have directly addressed these issues through arbitrations and other proceedings.[1188] For example, states have addressed the pre-ordering and ordering processes including determinations about what information incumbent LECs must make available about

[1183] As described below, we develop specific triggers for states to identify where competing carriers are not impaired without access to dark fiber due to the ability to self-deploy or the availability of third-party wholesale alternatives. We find that our national determination that requesting carriers are impaired without access to dark fiber transport, subject to a more granular analysis, benefits competitors that operate where no competitive alternatives exist and where self-provisioning is not possible. *See, e.g.*, Conversent Comments at 4; BrahmaCom Reply at 1-2; Maine CLEC Coalition Comments at 4-5.

[1184] As discussed in detail below, we find on a national basis that requesting carriers are not impaired without dark fiber transport along point-to-point routes when a state commission finds that either three competing carriers have self-provided transport facilities on that route (irrespective of whether they make available wholesale capacity), or two competing carriers make available wholesale dark fiber transport on that route. *See infra* Part VI.C.4.d.

[1185] *UNE Remand Order*, 15 FCC Rcd at 3854-55, para. 352. Again, we note the difficult balance between putting spare incumbent LEC fiber to use and the carrier-of-last-resort-obligations and planning interests of the incumbent LEC. As noted in the *UNE Remand Order*, some states such as Texas have developed processes to allow for the equitable use of dark fiber while addressing the legitimate concerns of incumbent LECs. *See UNE Remand Order*, 15 FCC Rcd at 3854, para. 352 n.694 (affirming as reasonable some of the parameters the Texas Commission developed regarding the use of unbundled dark fiber).

[1186] Accordingly, our determination moots Mpower's petition asking the Commission to establish a "first-come, first-served" policy for access to dark fiber as we grant states the flexibility to develop rules that incorporate policy objectives such as reservation policies and meeting carrier of last resort obligations. MGC Communications Petition for Clarification on Reconsideration and Request for Expedited Treatment, CC Docket Nos. 96-98, 95-185 at 4-6 (filed Feb. 17, 2000) (Mpower Feb. 17, 2000 Petition for Clarification). Additionally, the Mpower Petition for Clarification is moot to the extent that it requests the Commission to take action before May 17, 2000. Mpower Feb. 17, 2000 Petition for Clarification at 2-4, 6.

[1187] Conversent Oct. 10, 2002 *Ex Parte* Letter at 1-4; El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter, Attach. at 2-11.

[1188] *See, e.g.*, El Paso *et al*. Comments at 36-75; El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter at 3-10.

the location of dark fiber,[1189] the extent to which incumbent LECs must allow or perform splicing and other preparatory work,[1190] and access to dark fiber transport that traverses through intermediate central offices where the competitive LEC is not collocated.[1191] We recognize the hard work of the state commissions to make dark fiber meaningfully available and endorse such efforts here. We retain rule 51.307(e) which establishes an incumbent LEC's obligation to provide technical information about the incumbent LEC's network facilities.[1192]

(ii) DS3 Capacity Transport

386. We conclude on a nationwide basis that requesting carriers are impaired on a route-specific basis without access to unbundled DS3 transport. We make this determination based on the high fixed and sunk costs associated with self-providing transport and the lack of route-specific evidence showing alternative facilities as well as the difficulty of overcoming these obstacles at this transmission level. The need for DS3 capacity transport indicates that a carrier is aggregating a substantial amount of traffic from end users.[1193] However, as we discuss above, the cost of deploying a transmission facility does not vary significantly with capacity because much of the cost of the facility is related to the deployment itself, such as trenching or attaching to poles, rather than the cost of the cabling and other equipment.[1194] Moreover, the ability to economically justify transport deployment is based on the reasonable expectation of recovering the costs of deployment over time.[1195] Therefore, due to scale economies, we find,

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[1189] *See, e.g.*, El Paso *et al*. Comments at 58-80 (describing decisions made by the states of Texas, New Hampshire, Rhode Island, New Jersey and Maine); El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter at 7-10 (describing decisions made by the states of Texas, New Hampshire, Rhode Island, New Jersey, and Maine).

[1190] *See, e.g.*, El Paso *et al*. Comments at 39-44, 50, 53-57 (describing decisions made by the states of Texas, Indiana, Massachusetts, New Hampshire, Rhode Island, and the District of Columbia); Conversent Oct. 10, 2002 *Ex Parte* Letter at 1-4; El Paso/Conversent Nov. 26, 2002 *Ex Parte* Letter, Attach. at 3-7 (describing decisions made by the states of California, Texas, Indiana, Massachusetts, New Hampshire, Rhode Island, and the District of Columbia). To the extent that access to unbundled dark fiber requires some routine modification of an existing facility, our discussion, *infra* Part VII.D, may provide additional clarity. *See, e.g.*, El Paso *et al*. Comments at 53-57 (describing existing fiber facilities not attached to termination equipment).

[1191] *See, e.g.*, El Paso *et al*. Comments at 36-39 (describing decisions made by the states of Massachusetts, Rhode Island, New Jersey and Maine).

[1192] Section 51.307(e) states, "[a]n incumbent LEC shall provide to a requesting telecommunications carrier technical information about the incumbent LEC's network facilities sufficient to allow the requesting carrier to achieve access to unbundled network elements consistent with the requirements of this section."

[1193] A DS3 circuit has the equivalent capacity to 672 voice-grade loops or 28 DS1 loops.

[1194] *See* AT&T Oct. 4, 2002 *Ex Parte* Letter, Attach. at 12 (stating that transmission electronics generally do not scale with demand); *see also supra* para. 371 (describing costs and other barriers to entry associated with deploying transport facilities).

[1195] The potential revenue stream associated with a single DS3 is far less than the revenue stream associated with aggregating traffic that requires an OCn circuit, yet the cost to deploy the facilities can be practically the same. *See* (continued….)

generally, that the inability to recover the fixed and sunk costs of deploying transport facilities, coupled with the barriers to obtaining rights-of-way, impairs the ability of requesting carriers to self-provision DS3 transport.

387. There is substantial evidence that carriers lease non-incumbent LEC transport at the DS3 capacity where competitive alternatives are available or self-deploy transport when multiple DS3 transport circuits are required to carry aggregated traffic along a route.[1196] The record indicates that competitive transport facilities exist in a number of areas and are often being made available on a wholesale basis at the DS3 level.[1197] However, while some local markets have competitive alternatives, the record does not establish with route-specificity where such deployment has occurred.[1198] While a few competing carriers have stated in the aggregate that there is an alternative transport facility on up to approximately 50 percent of routes they use, these carriers do not serve all geographic areas, especially rural areas, and have not shown that the alternative is available to them.[1199] Although we find that alternative facilities are not available to competing carriers in a majority of areas, the record indicates that, particularly in dense urban areas, alternative transport facilities are readily available. As we describe below, however, we delegate to the states the authority to collect and analyze more specific evidence of

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AT&T Oct. 4, 2002 *Ex Parte* Letter, Attach. at 12 (stating that transmission electronics generally do not scale with demand). Accordingly, it takes a longer period of time for a competitive LEC to recover its costs of deploying a single DS3 transmission facility.

[1196] *See supra* para. 379 (discussing competitive wholesale supply). Importantly, where alternative transport is available, DS3 circuits are very commonly a standard unit of wholesale provisioning.

[1197] AT&T uses non-incumbent LEC facilities, including its own facilities, for a substantial portion of its DS3 transport while Allegiance uses non-incumbent LEC facilities for 30% of its DS3 transport. AT&T Comments at 150 (citing confidential data); Allegiance Comments at 28. Thus, the record indicates that when a carrier aggregates sufficient traffic to require DS3 transport, the carrier is not impaired by the fixed costs associated with negotiating for alternative facilities and obtaining a cross-connect.

[1198] BOC UNE Fact Report 2002 at III-2, Table 1 (stating that, on average, only 13% of BOC wire centers have a single competing carrier collocated using non-incumbent transport facilities). However, in the largest 25 MSAs served by each BOC, 35% of BOC wire centers have a single competing carrier collocated using non-incumbent transport facilities. BOC UNE Fact Report 2002 at III-3, Table 2. Additionally, the BOCs argue that larger central offices are more likely to have competitors collocate alternative transport facilities. BOC UNE Fact Report 2002 at III-3, Table 3 (showing that at least one competitive fiber-based collocation exists in 48% of central offices with over 5,000 business lines). Finally, the BOCs argue that the largest metropolitan areas have a significant number of competitive LEC networks. BOC UNE Fact Report 2002 at III-7, Table 4 (showing an average of 15 competitive networks operate in the top 50 MSAs). As discussed above, we find that transport is appropriately reviewed on a route-specific basis. *See supra* para. 376.

[1199] For example, Mpower states that, in 50% of the central offices in which Mpower is collocated, at least one alternative transport provider also is collocated. Mpower Reply at 13-16; Mpower Oct. 11, 2002 *Ex Parte* Letter, Attach. at 5. In the offices in which Covad is collocated in four of Covad's major markets (San Francisco, Chicago, New York Tri-State, and Washington, D.C.), Covad observes that one or more competitors have terminated non-incumbent fiber in over 51% of these central offices. Covad Comments, CC Docket No. 96-98, Declaration of Mark Shipley and Marie Chang at para. 18, Table 1 (filed June 11, 2001).

transport deployment on a route-specific basis, applying uniform national triggers that measure self-provisioning or wholesale alternative transport availability to determine routes where competitive carriers are not impaired without access to incumbent LEC unbundled DS3 transport.[1200]

388. *Limitation on Multiple DS3 Circuits and OCn*. Consistent with our analysis of dark fiber transport, we find that as a carrier develops traffic along a route consisting of multiple DS3s worth of capacity, it can overcome barriers to entry including sunk costs and economies of scale such that it can prepare to self-deploy transmission facilities or optronic equipment to activate dark fiber.[1201] Indeed, our record shows that carriers add capacity in increments of DS3 capacity as demand for additional transport increases. Based on the predominance of record evidence, we establish a maximum number of twelve unbundled DS3 transport circuits that a competing carrier or its affiliates[1202] may obtain along a single route.[1203] In making this decision, we considered a wide range of evidence in the record. For instance, BellSouth states that one-third of its end offices require only three DS3 transport circuits or less.[1204] Meanwhile, competitive LECs assert that it is not economic for them to deploy transport facilities with less than ten to eighteen DS3 circuits on a route.[1205] Moreover, the record shows that carriers have

[1200] As discussed in detail below, we find on a national basis that requesting carriers are not impaired without DS3 transport along point-to-point routes when a state commission finds that either three competing carriers have self-provided transport facilities on that route (irrespective of whether they make available wholesale capacity), or two competing carriers make available wholesale DS3 transport on that route. *See infra* Part VI.C.4.d. We find that our national determination that requesting carriers are impaired without access to DS3 transport, subject to a more granular analysis, benefits small business competitors that operate where no competitive alternatives exist and where self-provisioning is not possible. *See, e.g.*, BrahmaCom Reply at 1-2; Maine CLEC Coalition Comments at 4-5.

[1201] *See supra* para. 371 (describing costs and barriers to entry associated with deploying transport facilities).

[1202] We incorporate the Act's definition of "affiliate" to define the extent to which a carrier or its affiliates may obtain multiple DS3 circuits on a route. *See* 47 U.S.C. § 153(1).

[1203] Because our record indicates that the cost of deploying transport can be greater than the cost of deploying some fiber loops, we set the limit on unbundled DS3 circuits at 12 per route, per carrier, higher than the permissible number of DS3 loops per location. *See supra* Part VI.A.4.b.(ii)(c)(iii) (imposing a limitation of two DS3 capacity loops per location).

[1204] Letter from Jonathan Banks, General Attorney, BellSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Feb. 5, 2003) (BellSouth Feb. 5, 2003 Transport *Ex Parte* Letter) (explaining that two-thirds of its end offices are served by fewer than 18 DS3 equivalent circuits while one-third of its end offices require only three DS3 circuits or less, and suggesting that scale economies can be achieved at these capacities); *see also* High-Capacity Loop and Transport Petition (petitioning to eliminate unbundling for all loop and transport circuits greater than DS1 capacity on the basis that competing carriers are not impaired in further deployment because these facilities have been extensively deployed and are available on a wholesale basis).

[1205] *See* Letter from Steven A. Augustino, Counsel for SNiP LiNK, to William Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-2 (filed Feb. 7, 2003) (SNiP LiNK Feb. 7, 2003 Transport *Ex Parte* Letter) (stating that SNiP LiNK built its own transport facilities when it required the equivalent of 12 DS3 circuits); AT&T Oct. 4, 2002 *Ex Parte* Letter, Attach. at 14 (stating that it makes economic sense for AT&T to deploy transport only when it requires 12 or more DS3s on a route); AT&T Nov. 25, 2002 *Ex Parte* Letter (continued….)

deployed transmission facilities at the twelve DS3 level and above to serve enterprise customers,[1206] in areas across the country,[1207] and to provide wholesale transmission services and facilities to carriers.[1208] In limiting the unbundling obligation on a route to twelve DS3 circuits per carrier, we recognize that we are engaging in an act of line-drawing.[1209] Nevertheless, we draw this line as informed by an extensive record and based on our predictive judgment that this point will serve as an incentive for further facilities deployment while still allowing competitive entrants the opportunity to use unbundled transport at lower capacity levels, and to use dark fiber for higher capacities, to attain sufficient scale to self-deploy.[1210]

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at 1 & Attach. A (stating that, compared to incumbent LEC special access prices, it is economic for AT&T to self-deploy transport only when it has 18 DS3s worth of traffic); Letter from Thomas Jones, Counsel for Allegiance Telecom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Feb. 3, 2003) (Allegiance Feb. 3, 2003 Transport *Ex Parte* Letter) (stating that it is generally economic for Allegiance to deploy facilities when it requires 10 DS3s on a route); Letter from Cathleen A. Massey, Vice President – External Affairs, XO Communications, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-2 (filed Feb. 5, 2003) (XO Feb. 5, 2003 Transport *Ex Parte* Letter) (contending that it is generally economic for XO to deploy facilities when it requires 10 to 12 DS3s on a route); Letter from Patrick J. Donovan, Counsel for Cbeyond, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Feb. 13, 2003) (Cbeyond Feb. 13, 2003 *Ex Parte* Letter) (stating that any limitation "should be close to or at the OC-12 level"); *but see* AT&T Fea/Giovannucci Reply Decl. at para. 28 ("AT&T often engages in joint builds with other CLECs in order to share the high fixed costs of construction.").

[1206] *See* KMC Duke Aff. at paras. 3, 6, 10 (describing how KMC has deployed over 2100 route miles of local SONET transport networks in several geographic markets, an average of 60 miles each, serving customers using self-deployed and unbundled loops at the DS1 capacity and higher); AT&T Comments, Attach. E, Declaration of Michael E. Lesher and Robert J. Frontera at para. 9 (citing AT&T's 17,000 fiber route miles); *see also supra* Part IV (describing the evolution of the market for local telecommunications services); SNiP LiNK Feb. 7, 2003 Transport *Ex Parte* Letter at 1-2 (stating that SNiP LiNK built its own transport facilities when it maximized the use of an OC12 circuit).

[1207] For example, KMC serves markets ranging between 100,000 and 750,000 in population using its extensive fiber transport network. KMC Duke Aff. at para. 3; *see also* BOC UNE Fact Report 2002 at III-7, Table 4 (showing that several competitive LECs operate networks, even in much smaller MSAs with an average of 4.8 networks in MSAs ranked 101 to 125 and 3.4 competitive LEC networks in MSAs 126-150). We also note that the costs of deploying fiber in rural areas can be substantially lower, thus requiring a lower aggregation of traffic sufficient to take on the costs of fiber deployment. *See supra* para. 371.

[1208] BOC UNE Fact Report 2002 at III-6 through III-11 (describing "carrier-agnostic" wholesale suppliers and CAPs); Coalition of Competitive Fiber Providers Reply at 1-2 ("Coalition members provide competitive fiber-based transport services and dark fiber to competitive local exchange carriers . . . collocated in ILEC central offices.").

[1209] *See* ALTS Feb. 13, 2003 *Ex Parte* Letter at 4 (stating that an "acceptable trade-off would logically occur at 12 DS-3s.").

[1210] *See infra* para. 403 (indicating the need to draw bright-line rules for the sake of market certainty and administrative practicality).

389. The Commission previously unbundled all transport capacities up "through OC192 and such higher capacities as evolve over time."[1211] We do not perpetuate such broad unbundling today. As described above, we find that requesting carriers are not impaired without lit transport beyond twelve DS3s on a route due to the ability to self-provision transport facilities, or to self-provision optronic equipment necessary to activate unbundled dark fiber. Because we find no impairment above a twelve DS3 level and transport below this level is unbundled, we need not unbundle OCn interface transmission facilities. Rather, we find that dark fiber and multiple DS3 circuits provide reasonable substitutes for OCn interface circuits at these capacities and find that requesting carriers are not impaired without OCn or SONET interface transport.[1212]

(iii) DS1 Capacity Transport

390. We find that requesting carriers generally are impaired without access to DS1 capacity transport.[1213] We make this determination based on the high entry barriers associated with deploying or obtaining transport used to serve relatively few end-user customers and the lack of route-specific evidence showing sufficient alternative deployment.

[1211] *UNE Remand Order*, 15 FCC Rcd at 3842-43, para. 323. Typically, carriers employ OCn circuits in OC3, OC12, OC48, and OC192 capacity intervals. *See supra* note 1154 (describing capacity equivalencies). We also note that most carriers operate their transport networks at OC48 levels as the associated electronics are only incrementally more expensive in relation to the large jump in available scale. AT&T Comments at 134; AT&T Oct. 4, 2002 *Ex Parte* Letter, Attach. at 12 (stating, "transmission electronics . . . generally do not scale with demand (*e.g.*, an OC48 is not generally 4 times as costly as an OC12)").

[1212] Commenting parties provide differing interpretations of the availability of unbundled transport using SONET technology, as set forth in the *UNE Remand Order*. *See UNE Remand Order*, 15 FCC Rcd at 3843, para. 324; NuVox *et al*. Comments at 93-94; BellSouth Comments at 56 ("The Commission has not required ILECs to provide unbundled access to SONET rings."). Because we find that competing carriers are not impaired without access to optical capacity transport circuits, there is no need to clarify whether competing carriers can access a circuit directly provided on a SONET interface. However, because an incumbent LEC's interoffice transport facilities often operate using SONET technology, we clarify that incumbent LECs must unbundle DS1 and DS3 capacity circuits and dark fiber (on which a competing carrier may use SONET technology provided by its own electronics) on a point-to-point basis where subject to an unbundling obligation. Specifically, we note that this obligation exists regardless of the underlying technology the incumbent employs, and includes point-to-point transport provided on SONET rings operated by incumbent LECs. *See also infra* Part VII.D (discussing incumbent LEC unbundling obligations for specially constructed network facilities).

[1213] Unlike the DS3 cap we establish today, we do not find it prudent to establish a limit on the number of unbundled DS1 transport circuits a carrier may lease on a route. Instead, we are convinced that both operational and pricing efficiencies exist that serve to limit a competing carrier's incentive to over-subscribe DS1 transport on a route, even where unbundled DS3 transport is not available. Specifically, our record shows that the coordination of large multiples of DS1 circuits quickly becomes burdensome and much more costly than using larger capacity DS3 transport. *See, e.g.*, Letter from Henry Hultquist, Senior Attorney, WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. (filed Oct. 29, 2002) (WorldCom Oct. 29, 2002 Loops and Transport *Ex Parte* Letter).

391. The record indicates that competing carriers generally cannot self-provide DS1 transport. A carrier requiring only DS1 capacity transport between two points typically does not have a large enough presence along a route (generally loop traffic at a central office) to justify incurring the high fixed and sunk costs of self-providing just that DS1 circuit.[1214] This is because a requesting carrier in need of DS1 capacity transport faces the same fixed and sunk costs as other carriers deploying transport or using alternatives, but faces substantially higher incremental costs across its customer base than a carrier requesting higher capacity transport.[1215]

392. The record also indicates that, although competitive fiber has been deployed in many areas, DS1 transport is not generally made available on a wholesale basis[1216] and the record lacks the specificity for us to analyze appropriately transport on a route-specific basis.[1217] At this time, while we find that the market for competitive wholesale DS1 transport is nascent, even where higher capacity competitive transport is already made available on a wholesale basis, we find that applying a wholesale availability trigger is appropriate. While carriers suggest that a wholesale market for DS1 transport has not developed due to operational and cost considerations, we find that technological advances may allow this market to become practical.[1218] It is our predictive judgment that wholesale provision of DS1 transport will develop

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[1214] DS1 transport is the lowest standard capacity level of dedicated transport, although dedicated transport can be ordered at the DS0 capacity. Unbundled DS0 dedicated transport is not used by competing carriers as a practical matter.

[1215] *See supra* para. 371 (discussing transport costs and entry barriers). Even some incumbent LECs concede that some impairment exists at the DS1 level according to the impairment tests they propose. For example, while BellSouth asserts that transport at the DS3 level and above should not be unbundled, BellSouth proposes to use a trigger proxy at the DS1 level. Letter from Robert T. Blau, Vice President – Executive and Federal Regulatory Affairs, BellSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338 and 02-33, Attach. at 8 (filed Jan. 16, 2003) (BellSouth Jan. 16, 2003 *Ex Parte* Letter); *see also* Letter from W. W. Jordan, Vice President – Federal Regulatory, BellSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-321, 01-338, Attach. at 3 (filed Aug. 26, 2002) (BellSouth/Time Warner Aug. 26, 2002 Transport and Performance Measures *Ex Parte* Letter) (advocating a trigger be applied to determine impairment for all dedicated transport). Similarly, SBC proposes (in the alternative to removing unbundling for all DS1 and above transport) that unbundling for DS1 transport should be determined according to triggers similar to those adopted in the *Pricing Flexibility Order*. SBC Reply at 153.

[1216] While it is relatively common for carriers to obtain wholesale transport at higher capacities, we have very limited evidence of carriers using alternative DS1 transport. AT&T "almost never" uses non-incumbent LEC facilities for its DS1 transport while it uses non-incumbent LEC facilities a substantially higher percentage of its DS3 transport. AT&T Comments at 149-50 (citing confidential data); *see also* Cbeyond Nov. 22, 2002 Transport *Ex Parte* Letter, Declaration of Richard Batelaan at para. 11 (concluding that "alternative providers for DS1 level transport are at best nascent"); NuVox *et al*. Comments, Affidavit of Edward J. Cadieux (NuVox Cadieux Aff.) at para. 9 (where "third-party providers exist they either do not offer dedicated transport at the DS1 level (only at the DS3 level or higher) or that operational interfaces at the DS1 level are too problematic for third-party providers to be a viable facility source."); ALTS/CompTel Oct. 28, 2002 Transport *Ex Parte* Letter at 3 (stating that competition at the DS3 capacity level does not equate to competition for DS1 transport).

[1217] As discussed in para. 376 above, we find that transport is appropriately reviewed on a route-specific basis.

[1218] Competing transport providers would have to install additional multiplexing equipment and refine back office systems to handle DS1 interface wholesale transport. KMC Duke Aff. at para. 13; NuVox Cadieux Aff. at para. 9 (continued….)

as technology improvements make wholesale provision of DS1 circuits economic such that carriers have an incentive to invest in the equipment necessary to provide this capacity service.[1219] As we state below, however, we delegate to the states the ability to collect and analyze more specific evidence of transport deployment on a route-specific basis, applying a uniform national trigger that measures wholesale alternative transport availability to determine routes where competitive carriers are not impaired without access to incumbent LEC unbundled DS1 transport.[1220]

393. We also note that unbundled DS1 transport is often used by competing carriers in a loop/transport combination when collocation at the customer's end-office is uneconomic.[1221] In this manner, DS1 transport is used by competing carriers to expand into new service areas and may be used as a transition mechanism for carriers just entering an area, or for carriers serving a customer in an area only as a supplement to its primary operations in another area. In these situations, carriers are able to enter new markets to begin accumulating traffic, but do not have sufficient traffic to self-deploy.[1222] Under our analysis, new market entrants will have the ability to access unbundled DS1 transport, or access DS1 transport from multiple competing carriers.

d. Route-Specific Review Conducted by States Applying Federal Triggers

394. The Supreme Court required that the Commission apply "*some* limiting standard" to its impairment analysis.[1223] In this regard, the Court advised that "[t]he Commission cannot, consistent with the statute, blind itself to the availability of elements outside the incumbent's network," including whether requesting carriers are able to "self-provision, or . . . purchas[e] from another provider."[1224] We also recognize that the D.C. Circuit questioned how the

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(where "operational interfaces at the DS1 level are too problematic for third-party providers to be a viable facility source"); *see also* Eschelon Kunde Aff. at para. 11 (describing the costs associated with using multiple transport vendors including the added complexity of managing multiple contracts, ordering processes, maintenance processes, and bills).

[1219] Therefore, our wholesale availability test, explained in detail below, while not likely to have an immediate impact at the DS1 capacity level, ensures that our analysis is flexible enough to accommodate innovation in the marketplace.

[1220] As discussed in detail below, we find on a national basis that requesting carriers are not impaired without DS1 transport along point-to-point routes when a state commission finds that two competing carriers make available wholesale DS1 transport on that route. *See infra* Part VI.C.4.d.

[1221] *See infra* Part VII.A (describing combinations of UNEs).

[1222] For the reasons outlined above, nationwide availability of DS1 transport will benefit small business competitors, especially those just entering a new market, as well as small business telecommunications consumers that use DS1 capacity services.

[1223] *Iowa Utils. Bd.*, 525 U.S. at 388.

[1224] *Id*. at 389.

Commission could find that an element like transport "is significantly deployed on a competitive basis," but remains available as an unbundled element from the incumbent LEC.[1225] As discussed above, we make affirmative national findings of impairment and non-impairment for transport at the national level, as supported by the record. However, evidence suggests that requesting carriers likely are not impaired without access to unbundled transport in some particular instances, but evidence in the record is not sufficiently detailed to identify these specific routes. Therefore, as described in detail below, we delegate to states a fact-finding role to identify where competing carriers are not impaired without unbundled transport, pursuant to two triggers.

395. Commenting parties suggested various proposals for how the Commission should apply a more granular impairment analysis for dedicated transport as suggested in the *Triennial Review NPRM*. We review these proposals here as they inform our conclusions about an appropriate level of granularity.

396. While the competitive LEC community generally supports unlimited unbundling of all transport,[1226] in the alternative, competitive LECs generally support removing the unbundling obligation for transport on a route-specific basis only when a transport market on that route is fully competitive.[1227] ALTS and CompTel proposed that the Commission adopt the Department of Justice merger guidelines to determine when each transport route is sufficiently competitive because such a test will ensure that no alternative transport provider, or the incumbent LEC, maintains market power along every route for which no impairment is found. We reject this proposal because, as we describe above, this introduces a standard other than the impairment standard we have adopted more generally for determining unbundling obligations.[1228] Additionally, market power analyses are neither easily verifiable nor administratively simple for purposes of our instant inquiry; they rely on market share analysis that is complicated and requires considerable time and expense to prepare.[1229] Moreover, such an analysis is likely to be

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[1225] *USTA*, 290 F.3d at 422.

[1226] *See, e.g.*, ALTS *et al*. Comments at 60-61; NuVox *et al*. Comments at 84-91.

[1227] *See, e.g.*, Letter from H. Russell Frisby, President, CompTel, and John Windhausen, President, ALTS, to William F. Maher, Chief, Wireline Competition Bureau, FCC, CC Docket No. 01-338, Attach. at 1-4 (filed Oct. 8, 2002) (ALTS/CompTel Oct. 8, 2002 Transport *Ex Parte* Letter); ALTS/CompTel Oct. 28, 2002 Transport *Ex Parte* Letter at 5-6; Letter from Douglas I. Brandon, Vice President – External Affairs and Law, AT&T Wireless, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-3 (filed Dec. 20, 2002) (ATTWS Dec. 20, 2002 *Ex Parte* Letter). Indeed, competitive LECs opposed geographic granular analysis that did not consider route-specific factors, or applied only to broader geographic areas. *See, e.g.*, ALTS Feb. 13, 2003 *Ex Parte* Letter at 3-4; Letter from Praveen Goyal, Senior Counsel, Covad, to Michelle Carey, Chief, Competition Policy Division, Wireline Competition Bureau, FCC, CC Docket No. 01-338 at 4-5 (filed Jan. 21, 2003) (Covad Jan. 21, 2003 *Ex Parte* Letter).

[1228] *See supra* Part V.B.1.d.(iii) (describing why the Commission does not adopt an antitrust-style market power analysis as a part of its impairment analysis).

[1229] *See Pricing Flexibility Order*, 14 FCC Rcd at 14271-72, para. 90.

controversial and difficult to resolve.[1230] We conclude that a route-specific bright-line standard is more manageable for the parties and administratively more practical.[1231]

397. SBC, Verizon, and BellSouth all propose that the Commission find no impairment for all DS3 and greater transport, including dark fiber.[1232] In the alternative, they and Qwest argue that if the Commission should adopt a trigger to identify impairment, the Commission should adopt a competitive trigger based on those in the Commission's *Pricing Flexibility Order* for special access.[1233] In general, these incumbent LECs argue that wherever and whenever they have received pricing flexibility for special access, they should not be required to unbundle transport.[1234] The record indicates that incumbent LECs have qualified for special access pricing flexibility in numerous MSAs throughout their regions, almost exclusively by meeting the triggers based on special access revenues.[1235] Because the revenue trigger requires only a single

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[1230] *Id*.

[1231] *See, e.g.*, WorldCom Reply at 127 (suggesting a bright-line standard of four wholesale competitors on a route); Allegiance Reply at 47 (suggesting a bright-line standard of four wholesale competitors on a route); Letter from Thomas Jones, Counsel for Allegiance, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-5 (filed Jan. 30, 2003) (Allegiance Jan. 30, 2003 Transport *Ex Parte* Letter) (proposing a bright-line standard of 2 competitive wholesale providers or 3 competitive providers on a route as sufficient to satisfy the impairment standard); XO Jan. 28, 2003 Transport *Ex Parte* Letter at 1-2 (advocating a bright-line route-based standard of at least four competitors collocated at both end points of a transport route, three of which must offer wholesale transport).

[1232] *See, e.g.*, Verizon Comments at 105-13; BellSouth Comments at 90-102; SBC Comments at 96. To the extent that these arguments are based on the availability of incumbent LEC tariffed "special access" services serving as an alternative to UNEs, we address these arguments in our impairment analysis, *supra* Part V.B.1.d.(iii). *See* Verizon Dec. 17, 2002 *Ex Parte* Letter at 1, 8-11 (arguing that competitive LECs are not impaired without unbundled transport because they use incumbent LEC special access transport services).

[1233] *See, e.g.*, Qwest Comments at 32-39. We note that while their various proposals may differ slightly, they are all based expressly on the triggers set forth in the Commission's *Pricing Flexibility Order*. *Pricing Flexibility Order*, 14 FCC Rcd 14221.

[1234] *See, e.g.*, Qwest Comments at 32. Although they argue non-impairment should be identified based on Phase I pricing flexibility, in the alternative, the BOCs argue that Phase II pricing flexibility should apply as a non-impairment trigger. Phase I pricing flexibility for certain special access services is triggered on an MSA basis when (1) 15% of wire centers have one collocated competitor using non-incumbent transport, or (2) in wire centers accounting for at least 30% of revenues for these services, at least one competitor has collocated using non-incumbent transport. Phase II pricing flexibility is triggered on an MSA basis when (1) 50% of wire centers have one collocated competitor using non-incumbent transport, or (2) in wire centers accounting for at least 65% of revenues for these services, at least one competitor has collocated using non-incumbent transport. *See* 47 C.F.R. § 69.709.

[1235] *See supra* note 1234 (describing the *Pricing Flexibility Order* triggers based, alternatively, on competitive transport-based collocation or special access revenues); *see also* NewSouth Dec. 12, 2002 *Ex Parte* Letter at 2 (describing details of where and how BellSouth has received special access pricing flexibility); BellSouth Oct. 15, 2002 Transport and Loop *Ex Parte* Letter, Attach. at 5 (stating that BellSouth has received Phase I and Phase II special access pricing flexibility in 100% of nation's top 150 MSAs in its region); Verizon Dec. 17, 2002 *Ex Parte* Letter at 7 (stating that Verizon has pricing flexibility in 37% of its wire centers); Qwest Oct. 11, 2002 Transport *Ex* (continued….)

collocated competitor and the purchase of substantial amounts of special access in a concentrated area, this test provides little indication that competitors have self-deployed alternative facilities, or are not impaired outside of a few highly concentrated wire centers. Additionally, the pricing flexibility trigger based on alternative transport-based collocation requires no consideration of the ubiquity of the competitive transport facilities throughout an MSA. The measure does not indicate that the competitive fiber facilities connect to collocations in any other incumbent LEC central offices. The measure may only indicate that numerous carriers have provisioned fiber from their switch to a single collocation rather than indicating that transport has been provisioned to transport traffic between incumbent LEC central offices. Therefore, we find that Commission approval for special access pricing flexibility, finding that competing carriers have made "irreversible sunk investments," is not sufficiently tailored to identify where requesting carriers are not impaired without unbundled transport.[1236]

398. There is no disagreement among the parties that alternative transport facilities have been deployed and are available as alternatives to unbundled transport in some locations. However, the record does not identify the location of alternative transport facilities, and parties dispute the degree to which competitive facilities must be deployed before competing carriers are no longer impaired without unbundled transport. We need not resolve in this Order the factual identification of where alternative facilities exist. Rather, we are able to discern impairment at the national level based on aggregated data. However, because we recognize that the record is insufficiently detailed to make more precise findings regarding impairment, we delegate to the states, subject to appeal back to this Commission if a state fails to act, a fact-finding role to determine on a route-specific basis where alternatives to the incumbent LECs' networks exist such that competing carriers are no longer impaired.[1237]

399. As discussed above, the record indicates that competing carriers have self-deployed significant quantities of local fiber transport facilities. Moreover, the record indicates that competing carriers often use transport provided by competitive transport providers where available, rather than facilities provided by the incumbent LEC. However, substantial barriers to self-deploying transport including high fixed and sunk costs indicate that carriers are impaired in many instances without access to incumbent LEC facilities. Therefore, we adopt two triggers designed to identify where carriers are not impaired without access to incumbent LEC transport based on the two primary ways carriers can overcome impairment: (1) the ability to self-deploy

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Parte Letter, Attach. at 5 (stating that Qwest has been granted pricing flexibility in 33 of its 45 MSAs, many of which are not national top 100 MSAs).

[1236] *See supra* Part V.B.1.d.(iii) (distinguishing the purposes of the "impair" standard and the pricing flexibility standard).

[1237] Appeals of state inaction shall be filed as pursuant to the procedures we adopt today. *See supra* Part V.E.

facilities, and; (2) access to third party alternatives.[1238] We adopt both triggers to best address the guiding principles provided by reviewing courts.[1239]

400. The first trigger is designed to identify routes along which the ability to self-provide transport facilities is evident based on the existence of several competitive transport facilities. Specifically, where three or more competing carriers, not affiliated with each other or the incumbent LEC, each have deployed non-incumbent LEC transport facilities along a specific route, regardless of whether these carriers make transport available to other carriers, we find that to be sufficient evidence that competing carriers are capable of self-deploying.[1240] The second trigger is designed to identify where competitive wholesale alternatives are available. Specifically, we find that competing carriers are not impaired where competing carriers have available two or more alternative transport providers, not affiliated with each other or the incumbent LEC, immediately capable and willing to provide transport at a specific capacity along a given route between incumbent LEC switches or wire centers.[1241] If a state commission finds no impairment for a specific capacity of transport on a route, the incumbent LEC will no longer be required to unbundle that transport along that route, according to the transition schedule adopted by the state commission.

401. Both triggers we adopt today evaluate transport on a route-specific basis. We define a route, for purposes of these tests, as a connection between wire center or switch "A" and wire center or switch "Z."[1242] Even if, on the incumbent LEC's network, a transport circuit from "A" to "Z" passes through an intermediate wire center "X," the competitive providers must offer service connecting wire centers "A" and "Z," but do not have to mirror the network path of the incumbent LEC through wire center "X." We find that analyzing transport at this very granular level will provide the most accurate determination of impairment. BellSouth's and other BOC's

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[1238] *See Iowa Utils. Bd.*, 525 U.S. at 389; *see also supra* Part V.B (discussing the impair standard).

[1239] We expect states to implement both triggers as each addresses only part of the analysis. Were we to adopt (or states to implement) only a test for the ability to self-provision transport, two carriers could conceivably deploy transport facilities and make them available to other carriers such that competing carriers are not impaired without access to the incumbent LEC's facilities, but the incumbent would remain subject to an unbundling obligation. Likewise, were we to adopt (or states to implement) only a test for wholesale availability, it is possible that wholesale opportunities may not exist despite the ability of several carriers to overcome the barriers to deploy along a route. We note that where a state makes a finding of non-impairment under either trigger, there is no reason to apply the other trigger on that route.

[1240] *See infra* para. 405.

[1241] *See infra* para. 413.

[1242] *See, e.g.*, Letter from Steven A. Augustino, Counsel for SNiP LiNK *et al.*, to William Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3-6 (filed Jan. 24, 2003) (SNiP LiNK *et al.* Jan. 24, 2003 Transport *Ex Parte* Letter); Letter from Michael H. Pryor, Counsel for NewSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, Attach. at 2 (filed Feb. 3, 2003) (NewSouth Feb. 3, 2003 Transport *Ex Parte* Letter); Letter from Jonathan Askin, General Counsel, ALTS, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 1 (filed Jan. 29, 2003) (ALTS Jan. 29, 2003 Transport *Ex Parte* Letter); Covad Jan. 21, 2003 *Ex Parte* Letter at 1, 4-5.

fiber-based collocation proposals are based solely on the presence of alternative transport at one end of a route such that when one end of a route is competitive (a central office with fiber-based collocation), no unbundled transport will be available in or out of that competitive central office.[1243] These proposals would effectively leverage the existence of competition in one location to remove the unbundling obligation to perhaps several other locations without any proof that a requesting carrier could self-provide or utilize alternative transport to reach those other locations.[1244] A route-specific test is sufficiently granular to avoid falsely identifying as competitive a route between two offices.[1245] Also, the route-based triggers we adopt allow carriers to avoid the costs and operational problems associated with cobbling together multiple vendor links to complete a route between two incumbent LEC central offices.

402. We consider, but decline to adopt, a test based on each link between two incumbent LEC central offices.[1246] While this may have benefits of being easier to implement, a link-specific test raises practical operational problems of linking together facilities of multiple providers to complete a single circuit, sometimes called daisy-chaining. That is, a competing carrier may have to coordinate multiple vendors for a single route if the complete route a competing carrier requests goes through an intermediate central office and one of the two links comprising the complete route is not unbundled.[1247] This almost inevitably would raise costs, increase provisioning time intervals, and make maintenance and repair more difficult.[1248] We also consider, but decline to adopt, an analysis of transport markets on a broader scale, such as a city, MSA, or other zone and reject these approaches as too over- and under-inclusive.[1249] That is, there may be actual impairment on some routes, but not others within a wider geographic area. Thus, a finding of impairment or non-impairment throughout an area could permit

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[1243] *See, e.g.*, BellSouth and Time Warner Telecom propose finding no impairment for unbundled transport where "3 or more competitive transport providers exist in either A or Z wire center." BellSouth/Time Warner Aug. 26, 2002 Transport and Performance Measures *Ex Parte* Letter, Attach. at 3.

[1244] *See, e.g.*, ALTS *et al*. Comments at 67.

[1245] *See* ALTS Jan. 29, 2003 *Ex Parte* Letter at 1; SNiP LiNK *et al*. Jan. 24, 2003 Transport *Ex Parte* Letter at 3-6; Covad Jan. 21, 2003 *Ex Parte* Letter at 4-5. As ALTS and CompTel state in a metaphor, "[A] passenger at Dulles Airport seeking to fly to San Francisco would not ask an airline: 'Do any of your flights have seats available?' Instead, the question would be: 'Do any of your flights to San Francisco have seats available?'" ALTS/CompTel Oct. 8, 2002 Transport *Ex Parte* Letter at 1.

[1246] By a "link," we mean a direct connection between two incumbent LEC switches or wire centers, without passing through any intermediate wire centers or switches. On the other hand, a "route" may connect wire centers or switches that are not directly connected to each other.

[1247] ALTS/CompTel Oct. 28, 2002 Transport *Ex Parte* Letter at 3, 6 & Attach. A (describing the costs associated with not using a whole route approach and multi-span routes).

[1248] *Id*.

[1249] *See supra* para. 397 (discussing incumbent LEC suggestions to incorporate the MSA-based *Pricing Flexibility Order* triggers into the Commission's impairment analysis of transport).

unbundling on routes where no impairment exists, or foreclose access to unbundled transport on routes where impairment does exist.

403. As the Commission has done in other circumstances, we adopt these triggers as a mechanism for determining impairment. Adopting triggers with objective criteria can avoid the delays caused by protracted proceedings and can minimize administrative burdens.[1250] Our selection of various thresholds, as in rate setting, is not an exact science.[1251] Rather, the thresholds are based on our agency expertise, our interpretation of the record, and our desire to provide bright-line rules to guide the industry in implementing section 251.[1252] Our effort to select triggers that precisely measure impairment for transport is hampered by the lack of verifiable data concerning competitor's facilities. Given these constraints, we adopt triggers that, in our reasoned judgment, minimize administrative burdens while still reasonably applying our impairment standard.

404. We also expect that the triggers we adopt will produce desirable incentives for competing carriers to build out their transport networks. As a policy matter, we find that unbundling can create a disincentive for competitive LECs to deploy transport. After incurring substantial fixed and sunk costs, a carrier that has deployed transport facilities must continue to compete against carriers able to obtain unbundled transport without incurring any large costs. Moreover, the triggers will benefit competing carriers that invest or have invested in their own transport facilities by attracting additional wholesale customers to mitigate the costs of deployment if their facilities trigger a finding of no impairment that eliminates unbundling.

(i) Self-Provisioning Trigger

405. We delegate to state commissions the authority to declare requesting carriers not to be impaired without unbundled transport when there is sufficient evidence that facilities deployment is possible on a particular route, regardless of the availability of wholesale transport. Reviewing courts have instructed the Commission to identify those areas in which lack of access to an incumbent LEC's facilities does not present an insurmountable barrier to entry as evidenced by the suitability of "multiple, competitive supply."[1253] As noted above, we give substantial weight to actual commercial deployment of an element by competing carriers.[1254]

[1250] *Pricing Flexibility Order*, 14 FCC Rcd at 14267-68, para. 84.

[1251] *United States v. FCC*, 707 F.2d 610, 618 (D.C. Cir. 1983); *see also Pricing Flexibility Order*, 14 FCC Rcd at 14276, 14297-98, paras. 96, 144.

[1252] Although ALTS and CompTel do not support a test based on a strict count of the number of alternative transport providers, they urge the Commission to set numbers "at a level sufficient to insure meaningful competition, and that the viability of the providers is clear and unquestioned." ALTS/CompTel Oct. 8, 2002 Transport *Ex Parte* Letter, Attach. at 2.

[1253] *USTA*, 290 F.3d at 427; *see supra* Part V.B. (discussing the framework for the Commission's impairment analysis).

[1254] *See supra* Part V.B. (discussing the impair standard).

Therefore, our trigger identifies existing examples of deployment by multiple competitive LECs on a route-specific basis. Specifically, we delegate to states authority to determine where three or more unaffiliated competing carriers each have deployed transport facilities on a route.[1255] We find that, when three carriers, in addition to the incumbent LEC, have each made sunk investment in transport facilities on a route, that is a sufficient indication that sunk costs, economies of scale, and other barriers to deploying transport facilities do not present an insurmountable barrier on a particular route such that requesting carriers are not impaired without access to unbundled transport.

406. Each counted self-provisioned facility along a route must be operationally ready to provide transport into or out of an incumbent LEC central office.[1256] We find that the competitive transport facilities counted to satisfy this trigger must terminate in a collocation arrangement which may be arranged either pursuant to contract, tariff or, where appropriate, section 251(c)(6) of the Act.[1257] We find it beneficial to count for purposes of this test all types of collocation arrangements, including those that may not qualify for collocation under section 251(c)(6).[1258] This provides an incentive to incumbent LECs to enable competitive LEC, including the "carrier-agnostic" wholesale transport providers, identified by incumbent LECs, to develop their transport networks by developing viable alternatives to unbundled transport.[1259]

407. We set the number of competitive facilities at three for several reasons. First, we want to be assured that the route can support "multiple, competitive" transport networks.

[1255] Allegiance proposes a granular impairment analysis to identify where carriers can self-provision very similar to this test. *See* Allegiance Jan. 30, 2003 Transport *Ex Parte* Letter at 2-4; Letter from Thomas Jones, Counsel for Conversent, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1 (filed Feb. 5, 2003) (Conversent Feb. 5, 2003 *Ex Parte* Letter) (supporting the transport impairment test Allegiance proposes in its January 30, 2003 *ex parte* letter).

[1256] This requirement is intended to preclude counting competitive facilities before the facility is capable of operation on that route. For example, the incumbent LEC must have fully provisioned the collocation arrangement (*e.g.*, provided space and power) before the route could be considered complete. In this same regard, states should not review the financial stability of alternative transport provisioners, except to the extent the carrier remains in operation. *See infra* para. 415. States also shall consider carriers that have self-deployed intermodal transport facilities that meet the requirements of this trigger.

[1257] Collocation may be in a more traditional collocation space or fiber can be terminated on a fiber distribution frame, or the like, to which any other competing carrier collocated in that central office can obtain a cross-connect under nondiscriminatory terms. *See* MFN Riordan Aff. at paras. 6-13 (describing Verizon's CATT arrangement for terminating transport fibers). Our impairment analysis recognizes alternatives outside the incumbent LEC's network regardless of the authority under which they came to exist.

[1258] *See* Coalition of Competitive Fiber Providers Petition for Declaratory Ruling, CC Docket No. 01-77 (filed Mar. 15, 2001) (stating that competitive fiber providers must reach a central office in order to be able to provide alternative transport to competing carriers collocated there, but are often denied access to section 251(c)(6) collocation rights); Coalition of Competitive Fiber Providers Reply at 3-9; ALTS *et al*. Comments at 69; Cbeyond Nov. 22, 2002 *Ex Parte* Letter at 2.

[1259] MFN Riordan Aff. at paras. 6-13; *see* BOC UNE Fact Report 2002 at III-6.

Second, setting the trigger at three competitive facilities allows for the possibility that some network owners may not be interested in providing wholesale services, in contrast with the wholesale availability trigger which counts only actual wholesalers.[1260] Third, due to the sunk nature of transmission facilities, facilities will remain on a route even if a competitive transport provider exits the market.[1261] Furthermore, we note that where, through the application of this trigger, impairment for unbundled transport at a particular capacity is no longer found, substantial competitive transport facilities, and perhaps other capacities of UNE transport will be available.[1262] Therefore, if this trigger removes unbundled transport at a particular capacity level, carriers will remain capable of serving end-user customers in all areas. This will provide certainty for new market entrants.

408. The competitive transport providers identified to satisfy this trigger on a route must be unaffiliated with the incumbent LEC and each other.[1263] This requires that separate facilities are counted and avoids counting as a true alternative a provider that uses the transport facilities of the incumbent LEC or another alternative provider to provide service on that route.[1264] We find, however, that when a company has obtained dark fiber from another carrier on a long-term IRU basis and activated that fiber with its own optronics, that facility should be counted as a separate, unaffiliated facility.[1265] As described above, the record suggests that

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[1260] *See, e.g.*, KMC Duke Aff. at paras. 12-14 (indicating KMC's lack of interest in providing wholesale transport services on its network).

[1261] UNE Fact Rebuttal Report at 20-24, 41-43.

[1262] Transport facilities may also be available from the incumbent LEC as a special access service. As noted in our earlier general discussion, the presence or absence of these facilities is not a factor in our impairment analysis.

[1263] Affiliated companies will be counted together in order to prevent gaming. We use the term affiliated and affiliate as the Act defines "affiliate." Section 3 of the Act defines the term "affiliate" as "a person that (directly or indirectly) owns or controls, is owned or controlled by, or is under common ownership or control with, another person. For purposes of this paragraph, the term 'own' means to own an equity interest (or the equivalent thereof) of more than 10 percent." 47 U.S.C. § 153(1). As discussed above, we find, for the limited purposes described herein, that when a company acquires dark fiber, but not lit fiber, from another carrier on a long-term IRU or comparable basis, that facility should be counted as a separate, unaffiliated facility. *See* ALTS/CompTel Oct. 28, 2002 Transport *Ex Parte* Letter at 3 (stating that, for a route-specific test, "a facilities-based transport provider must offer transport capacity via fiber it either owns, or else leases from a third party via long term lease.").

[1264] Thus, the self-provisioning trigger may be satisfied on a route by a combination of carriers' facilities that were self-deployed to provide wholesale transport to other carriers and facilities self-deployed by carriers to serve their own needs.

[1265] ALTS/CompTel Oct. 28, 2002 Transport *Ex Parte* Letter at 3 (stating that, for a route-specific test, "a facilities-based transport provider must offer transport capacity via fiber it either owns, or else leases from a third party via long term lease."). For purposes of this test, a competing carrier that has obtained dark fiber transport facilities from the incumbent LEC on an IRU basis should be considered to operate its own unaffiliated facilities. We believe that dark fiber IRU-type contracts protect against short-term gaming of this trigger. Moreover, we do not want to foreclose incumbent LECs from negotiating dark fiber IRU agreements with competitive LECs. Because we want to be certain of the independent ownership of the transport facilities, we find that consideration of transport facilities transferred on an IRU basis is limited to dark fiber and does not include "lit" fiber IRUs.

competing carriers are able to engage and have engaged in joint efforts to deploy transport, so that imposing a trigger that requires each facility on a route to have been separately deployed would fail to consider and may inhibit such cooperative deployment efforts.[1266] However, each competitive transport facility on a route counted to satisfy the trigger must terminate in a collocation arrangement in the incumbent LEC central office. This demonstrates that true alternatives to the incumbent LEC's network have been deployed[1267] and is consistent with the Supreme Court's interpretation of impairment.[1268] There is no requirement that the competing carriers identified to meet this trigger offer wholesale access to their transport networks.

409. *Specific Application*. As described above, the record indicates that competing carriers generally cannot self-provide DS1 transport. Therefore, we find that the self-provisioning trigger described above should not apply at the DS1 level.

410. *State Analytical Flexibility*. In applying the self-provisioning trigger, we find that actual competitive deployment is the best indicator that requesting carriers are not impaired and, therefore, emphasize that this quantitative trigger is the primary vehicle through which non-impairment findings will be made. However, we recognize that this trigger identifies only the existence of *actual* competitive facilities and does not address the *potential* ability of competitive LECs to deploy transport facilities along a particular route.[1269] Therefore, when conducting its analysis, a state must consider and may also find no impairment on a particular route that it finds is suitable for "multiple, competitive supply," but along which this trigger is not facially satisfied. States must expressly base any such decision on the following economic characteristics: local engineering costs of building and utilizing transmission facilities; the cost of underground or aerial laying of fiber; the cost of equipment needed for transmission; installation and other necessary costs involved in setting up service; local topography such as hills and rivers; availability of reasonable access to rights-of-way; the availability or feasibility of alternative transmission technologies with similar quality and reliability; customer density or

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[1266] AT&T Fea/Giovannucci Reply Decl. at para. 28 (describing coordinated deployment projects); *see* Letter from Stephen W. Crawford, General Counsel, El Paso Global Networks, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 6 (filed Feb. 5, 2003) (El Paso Feb. 5, 2003 Transport *Ex Parte* Letter) (asserting that only separately deployed facilities should be considered); Letter from Jonathan D. Lee, Vice President – Regulatory Affairs, CompTel, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 12-13 (filed Feb. 6, 2003) (CompTel Feb. 6, 2003 Dark Fiber *Ex Parte* Letter) (asserting that only separately deployed facilities should be considered).

[1267] As the Commission explained in the *Pricing Flexibility Order*, the lease of facilities from the incumbent does not indicate the type of lasting competitive infrastructure that can provide competition. *See Pricing Flexibility Order*, 14 FCC Rcd at 14270-71, para. 88.

[1268] *Iowa Utils. Bd.*, 525 U.S. at 389 (discussing "self-provision" and looking for "the availability of elements *outside* the incumbent's network") (emphasis added).

[1269] For example, incumbent LECs claim that competing carriers have deployed transport networks that entirely "bypass" parts of the incumbent LECs' networks. *See* BOC UNE Fact Report 2002 at III-4; *WorldCom v. FCC*, 238 F.3d. 440, 462 (D.C. Cir. 2001) (quoting *Pricing Flexibility Order*, 14 FCC Rcd at 14275-76, para. 95).

addressable market;[1270] and existing facilities-based competition. We believe that it is important to delegate this limited additional analysis because states are best positioned to analyze the characteristics of local markets where national aggregation does not appear possible.[1271]

411. In other instances, by contrast, states may identify impairment on specific routes that facially satisfy the self-provisioning trigger, but where some significant barrier to entry exists such that deploying additional facilities is entirely foreclosed. For example, a state might find impairment, despite the facial satisfaction of this trigger, if a municipality has imposed a long-term moratorium on obtaining the necessary rights-of-way such that a competing carrier can not deploy new facilities. In these circumstances, a state commission may petition the Commission for a waiver of application of the trigger until the impairment to deployment identified by the state no longer exists. Nevertheless, as explained in the following Subpart, a state must make a finding of non-impairment under the wholesale availability trigger if two or more carriers make transport available at wholesale, pursuant to the trigger.

(ii) Competitive Wholesale Facilities Trigger

412. Because the record demonstrates that competing carriers can obtain transport facilities from alternative providers offering wholesale dark fiber, DS3, and DS1 capacity transport along certain routes, carriers are not impaired without access to unbundled transport along those routes at the capacities made available. However, the record before the Commission is not granular enough to determine along which routes multiple alternative providers are able and willing to offer service to other competing carriers on a point-to-point basis. Therefore, we delegate to state commissions the fact-finding role of identifying on which routes requesting carriers are not impaired without unbundled transport at a specific capacity when there is evidence that two or more competing carriers, not affiliated with each other or the incumbent LEC, offer wholesale transport service completing that route.[1272] This test ensures that transport can readily be obtained from a firm using facilities that are not provided by the incumbent LEC.

413. We choose two competitive wholesale providers as the appropriate trigger because it ensures the suitability of "multiple, competitive supply" and will provide an incentive for new transport facilities deployment while allowing competitive pressures from the wholesalers to control pricing and terms.[1273] A competing carrier that is considering whether to

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[1270] The record indicates that competitive transport facilities are most likely to connect central offices with large addressable markets. *See* BOC UNE Fact Report 2002 at III-3, Table 3.

[1271] *See, e.g.*, Michigan Commission Comments at 4-5; Massachusetts Department Comments at 3; Kansas Commission Comments at 4; Ohio Commission Comments at 10; Oklahoma Commission Comments at 4.

[1272] Although wholesale providers may lease entire transport ring offerings, for purposes of this trigger, a wholesale offering must be made available on a route-specific basis. *See* El Paso Feb. 5, 2003 Dark Fiber *Ex Parte* Letter at 5-6.

[1273] *USTA*, 290 F.3d at 427. Although Allegiance initially advocated the use of the Department of Justice market concentration guidelines, Allegiance asserts that two is an appropriate number of competitive wholesale providers on a route to identify non-impairment. Allegiance Jan. 30, 2003 Transport *Ex Parte* Letter at 1-4. We also find, given the way we have developed our triggers for transport, that setting the number of wholesale providers at three (continued….)

deploy transport facilities for the purpose of providing a wholesale offering is likely to be encouraged to deploy if its deployment will eliminate transport priced at TELRIC, which is often lower than incumbent LEC tariffed special access rates. Because we want to provide an incentive for competing carriers to deploy facilities, we avoid setting the required number of wholesalers as high as competing carriers suggest.[1274] Finally, we find that two wholesale providers, in addition to the incumbent LEC, should provide competitive pressures on pricing and terms and avoid "umbrella pricing" while providing incentives to deploy.[1275]

414. The competitive transport providers identified to satisfy this trigger must be unaffiliated with the incumbent LEC and each other.[1276] This requires that separate facilities are counted and avoids counting as a true alternative a provider that uses the lit transport facilities of the incumbent LEC or another alternative provider to provide service on that route. We find, however, that when a wholesale transport provider has obtained dark fiber from another carrier, including unbundled dark fiber from the incumbent LEC, and activates and operates that fiber with its own optronic equipment, that facility should be counted as a separate, unaffiliated facility.[1277] Additionally, the competitive transport providers must be operationally ready and

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or more would conflict with our determination that three self-provisioned facilities on a route indicates a lack of impairment on that route. *See supra* para. 407.

[1274] *See, e.g.*, WorldCom Reply at 127; ALTS/CompTel Oct. 8, 2002 Transport *Ex Parte* Letter at 2; El Paso Feb. 5, 2003 Transport *Ex Parte* Letter at 2-4. If we established a higher number than two as the threshold, such as four, to ensure the market is fully competitive, the first potential entrant might be deterred from deploying facilities by the prospect of facing competition from providers using unbundled transport for a long time – until three other competitors deployed facilities. With a threshold of two, the first entrant to deploy and wholesale facilities need only wait until one other entrant deploys and wholesales facilities before a finding of no impairment is warranted and they no longer face competition with transport priced at TELRIC.

[1275] Umbrella pricing occurs when a smaller market entrant is able to price its product or service immediately below the price of the larger market leader, but does not have sufficient market presence to affect the market leader's price. *See* CARLTON & PERLOFF, MODERN INDUSTRIAL ORGANIZATION 111 (3d ed.) (stating, "[i]t is often asserted that a dominant firm provides a *pricing umbrella* for smaller firms. As long as competing firms price at or below the level of the dominant firm, they will be able to find buyers."). We find that the risk of umbrella pricing is high when only one wholesale competitor enters the market in competition with the incumbent LEC, but is substantially reduced when two or more competitors provide wholesale transport in competition with the market leader, the incumbent LEC. *See also* Allegiance Jan. 30, 2003 Transport *Ex Parte* Letter at 4 (stating, "the choice of two non-ILEC wholesalers . . . avoids the extreme inefficiencies created by a duopoly market structure."). We therefore recognize the balance between encouraging facilities deployment and ensuring that competitors have access to facilities on a competitive basis.

[1276] We use the term affiliated and affiliate as the Act defines "affiliate." Section 3 of the Act defines the term "affiliate" as "a person that (directly or indirectly) owns or controls, is owned or controlled by, or is under common ownership or control with, another person. For purposes of this paragraph, the term 'own' means to own an equity interest (or the equivalent thereof) of more than 10 percent." 47 U.S.C. § 153(1).

[1277] Competing carriers that offer wholesale DS1 and DS3 transport using unbundled dark fiber will be counted for purposes of this test if they activate and operate the unbundled dark fiber with their own electronic equipment. However, the availability of unbundled dark fiber will not affect the application of this wholesale availability trigger as applied to dark fiber. Thus, a provider of wholesale dark fiber must own the fiber it wholesales. *See* Allegiance Jan. 30, 2003 Transport *Ex Parte* Letter at 3 (stating that the Commission should consider as viable wholesale

(continued….)

willing to provide the particular capacity transport on a wholesale basis along the specific route.[1278] This safeguards against counting alternative fiber providers that may offer service, but do not yet have their facilities terminated or collocated in the incumbent LEC central office, or are otherwise unable immediately to provision service along the route.[1279] Moreover, the quality and terms of the competing carriers' wholesale offerings need not include the full panoply of services offered by incumbent LECs.[1280] Finally, for purposes of this test, the competitive transport provider must make the specific capacity transport services widely available. These provisions avoid counting alternative transport facilities owned by competing carriers not willing to offer capacity on their network on a wholesale basis.[1281]

415. We find that states should not evaluate any other factors, such as the financial stability or well-being of the competitive transport providers.[1282] Bankrupt competing carriers in Chapter 11 are often still providing service and, regardless of their financial status, the physical assets remain and may be bought by someone else and remain in service.[1283] Requiring states to determine the financial ability of competitive wholesale providers to provide service in the future could hamper economic recovery efforts of companies in financial distress. The key principle is

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alternatives competing carriers that obtain dark fiber on a long-term basis and activate that fiber with their own electronics); ALTS/CompTel Oct. 28, 2002 Transport *Ex Parte* Letter at 3 (stating that, for a route-specific test, "a facilities-based transport provider must offer transport capacity via fiber it either owns, or else leases from a third party via long term lease.").

[1278] *See* ALTS/CompTel Oct. 8, 2002 Transport *Ex Parte* Letter, Attach. at 3; Cbeyond Nov. 22, 2002 *Ex Parte* Letter at 2 (asserting that the Commission should ensure that competitive fiber providers are able to extend facilities into incumbent central offices and establish a presence in that central office that will permit ready and economical access to competing carriers). States also shall consider carriers that utilize intermodal transport facilities to provide wholesale transport capacity to the extent that they satisfy the requirements of this trigger.

[1279] We believe that a connection such as a cross-connect between collocations, or the ability to connect to a competitive fiber termination panel, similar to the CATT tariffed offering by Verizon, qualifies as ready to provision, so long as other carriers can obtain such a connection in a reasonable and nondiscriminatory manner. *See* ALTS/CompTel Oct. 8, 2002 Transport *Ex Parte* Letter, Attach. at 3 (advocating that economical and reliable access to competitive transport facilities should be a prerequisite of a route-by-route analysis); MFN Riordan Aff. at paras. 6-11 (describing Verizon's CATT fiber termination offering). This ensures that the wholesale trigger counts only wholesale offerings that are readily available. The Commission's collocation rules provide clarity on nondiscriminatory principles including the right to interconnect with other collocated competing carriers by cross-connection. *See generally Collocation Remand Order*, 16 FCC Rcd 15435.

[1280] We expect that providers of alternative transport will have an incentive to offer competitive terms with those of the incumbent LEC.

[1281] We note that carriers with transport facilities on a route not willing to provide wholesale services will be counted in the self-provisioning trigger described above.

[1282] *See* ALTS/CompTel Oct. 8, 2002 Transport *Ex Parte* Letter, Attach. at 3.

[1283] UNE Fact Rebuttal Report at 20-24, 41-43.

that they are currently offering and able to provide service.[1284] Another factor that states should not consider is whether the incumbent LEC allows multi-vendor end-to-end testing of circuits.[1285] Our trigger looks at the entire requested route and so avoids the pitfalls of multi-span patchwork problems. Finally, we do not expect states to consider the economic feasibility of competitive offerings.[1286] Again, this type of review would engender great uncertainty and variability from state to state. We find that economic forces will act to constrain uneconomic wholesale offerings. Moreover, an offering that may not be feasible for one competing carrier may be feasible for another.

416. *Specific Application to Different Capacities*. Unlike the wholesale availability tests for lit DS1 and DS3 transport, unbundled dark fiber from the incumbent LEC is not to be considered a wholesale alternative for dark fiber. States may ensure that wholesalers of dark fiber have sufficient quantities of dark fiber available to satisfy current demand.[1287]

(iii) State Action Under Both Triggers

417. We expect states to complete their initial reviews applying the triggers and other analysis discussed above within nine months from the effective date of this Order. Unbundled DS1, DS3, and dark fiber transport will remain available in all locations until the state commission determines that unbundled transport at particular capacities in specific locations is no longer required. States that conduct this review need only address routes for which there is relevant evidence in the proceeding that the route satisfies one of the triggers or the potential deployment analysis specified in this Part.[1288] To the extent that a state commission does not complete its proceedings in this nine month period,[1289] aggrieved parties may file a petition with this Commission demonstrating a state's failure to act pursuant to the procedures we outline today.[1290] We expect that states will require an appropriate period for competitive LECs to transition from any unbundled transport that the state finds should no longer be unbundled.

[1284] For instance, states should review whether the competitive transport provider has filed a notice to terminate service along the route in question.

[1285] *See* ALTS/CompTel Oct. 8, 2002 Transport *Ex Parte* Letter, Attach. at 3.

[1286] ALTS/CompTel Oct. 28, 2002 Transport *Ex Parte* Letter at 1-2 (asserting that alternative transport must be economically feasible).

[1287] *See* Allegiance Jan. 30, 2003 Transport *Ex Parte* Letter at 3; Conversent Feb. 5, 2003 *Ex Parte* Letter at 1.

[1288] *See supra* para. 410.

[1289] By "complete," we mean that a state commission, upon receiving sufficient evidence, has an affirmative obligation to review the relevant evidence associated with any route submitted by an interested party, and to apply the trigger and any other analysis specified in this Part to such evidence.

[1290] As discussed above, if a state fails to act, we set forth procedures for the Commission to step into the role of the state. *See supra* Part V.E (discussing the role of the states).

418. After completion of their initial reviews, we expect state commissions to conduct further granular reviews, pursuant to the procedures the state commissions adopt, to identify additional routes that satisfy the triggers. Such proceedings shall be completed within six months of the filing of a petition or other pleading submitted in accordance with the prescribed state commission procedures.[1291]

D. Local Circuit Switching

1. Summary

419. Pursuant to the approach set forth in the *Triennial Review NPRM*,[1292] the Commission adopts in this Order a more granular analysis for access to unbundled incumbent LEC local circuit switching. Specifically, based on the evidence in the record, we make the following determinations:

- *Local Circuit Switches Serving DS1 Capacity and Higher Enterprise Customers*. Based on evidence of competing carriers' widespread switch deployment to provide DS1 and above capacity service, we find on a national level that requesting carriers are not impaired without access to unbundled local circuit switching when serving DS1 enterprise customers. The states may rebut this finding by petitioning this Commission based on a granular review of specifically enumerated operational and economic criteria regarding facilities-based entry in specific markets.

- *Local Circuit Switches Serving Mass Market Customers*. We find on a national level that requesting carriers are impaired without access to unbundled local circuit switching when serving mass market customers. This finding is subject to a more granular review by the states pursuant to specifically enumerated triggers and other operational and economic criteria regarding facilities-based entry in specific geographic markets.[1293]

[1291] Subsequent to the initial review, states have the flexibility to adopt reasonable and timely procedures for the periodic collection and evaluation of evidence indicating the satisfaction of the transport triggers on additional routes to remove unbundling obligations. For example, a state may decide to include self-reporting information regarding alternative transport deployment in an annual or semi-annual report, either as an independent obligation or as part of the competitive carriers' periodic filing obligations. Alternatively, a state may decide to accept evidence of alternative deployment through petitions filed during prescribed filing windows or through rulemaking proceedings. Regardless of the procedures adopted, however, states that conduct further reviews must complete their evaluation of the evidence and reach a determination within six months of the filing of a petition or other pleading filed pursuant to the state procedures.

[1292] *Triennial Review NPRM*, 16 FCC Rcd at 22806, para. 55.

[1293] *USTA*, 290 F.3d at 422. By establishing an overarching national framework while at the same time developing precisely the type of granularity test called for by the D.C. Circuit in *USTA*, our switching approach allows for the Commission to take advantage of, and build on, the wealth of knowledge and expertise within a national regime for local telephone competition consistent with the federal-state partnership envisioned by the Congress in the Act.

420. We organize our analysis of local circuit switching based on the customer market served and the corresponding loop capacity levels used to serve each customer market. These categories are reliable indicators of the ability of a requesting carrier to utilize self-deployed switches. Our analysis focuses on, among other things, the different processes for transferring loops from incumbent LEC switches to competing carriers' switches to serve enterprise customers and mass market customers.[1294]

421. In conducting our impairment analyses, we consider marketplace evidence of competitive LEC deployment of switches to provide competing local services to enterprise or mass market customers. Our impairment analysis with respect to DS1 enterprise customers (*i.e.*, customers that are or could be served by competitors using DS1 capacity and above facilities) recognizes the significant existing deployment of competitive LEC switches to serve such customers.[1295] The evidence in our record establishes that, in most areas, competitive LECs can overcome barriers to serving enterprise customers economically using their own switching facilities in combination with unbundled loops (or loop facilities). The facilities used to provide DS1 capacity or above services to enterprise customers typically are not pre-wired to incumbent LEC switches, allowing competing carriers to avoid the costs and service disruptions associated with "hot cuts" – the manual process by which customer lines are migrated to competitor switches. Enterprise customers also generally offer increased revenue opportunities and are more willing to enter long-term contracts, allowing competitive LECs a greater ability to recover the nonrecurring costs associated with providing service using their own switches. Accordingly, we make a national finding that competitors are not impaired without unbundled access to incumbent LEC local circuit switching when serving DS1 enterprise customers.[1296] We recognize, however, that special circumstances may create impairment without access to

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[1294] *See infra* Parts VI.D.5-6. As discussed below, we refer to this process of transferring, or cutting over, the loop as a "hot cut." Specifically, a hot cut refers to a process requiring incumbent LEC technicians to disconnect manually the customer's loop, which was hardwired to the incumbent LEC switch, and physically re-wire it to the competitive LEC switch, while simultaneously reassigning (*i.e.*, porting) the customer's original telephone number from the incumbent LEC switch to the competitive LEC switch. *See generally* Letter from Ron Gavillet, BiznessOnline.Com, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 7 (filed Feb. 14, 2003) (BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter).

[1295] Specifically, the record reflects that competing carriers have deployed as much as 1,300 local circuit switches and are primarily utilizing these switches to serve enterprise customers. AT&T Comments at 208-09; BOC UNE Fact Report 2002 at II-1; *see also* Letter from Michael A. Peterson, Executive Vice President – Chief Operating Officer and Chief Financial Officer, ATX, to Hon. Kevin Martin, Commissioner, FCC, CC Docket No. 01-338 at 1-2, 4 (filed Jan. 22, 2003) (ATX Jan. 22, 2003 *Ex Parte* Letter) (stating that "ATX has learned (as have most other CLECs that ATX is familiar with) that local switching facilities can be used to compete for larger customers"). ATX states that, to its knowledge, "virtually all CLEC switches are today focused on serving DS1 customers." *Id.* at 3.

[1296] We define "DS1 enterprise customers" for our impairment analysis as customers for which it is economically feasible for a competing carrier to provide voice service with its own switch using a DS1 or above loop. We find that this includes all customers that are served by the competing carrier using a DS1 or above loop. After the state commission conducts a "multiline DS0 cut-off" inquiry, it includes customers who could be served by the competing carrier using a DS1 or above loop. *See infra* para. 497.

unbundled local circuit switching to serve enterprise customers in particular markets. We thus allow states 90 days to petition the Commission to rebut the national finding in individual markets based on specific operational evidence regarding loop, collocation, and transport provisioning and specific economic evidence including the actual deployment of competitive switches and competitors' costs in serving enterprise customers.[1297]

422. In contrast, the record indicates that there has been only minimal deployment of competitive LEC-owned switches to serve mass market customers. The characteristics of the mass market give rise to significant barriers to competitive LECs' use of self-provisioned switching to serve mass market customers. Inherent difficulties arise from the incumbent LEC hot cut process for transferring DS0 loops, typically used to serve mass market customers, to competing carriers' switches. These hurdles include increased costs due to non-recurring charges and high customer churn rates, service disruptions, and incumbent LECs' inability to handle a sufficient volume of hot cuts. Accordingly, based on those barriers, we make a national finding that competitive carriers providing service to mass market customers are impaired without unbundled access to local circuit switching.

423. While our analysis could end with this conclusion, we nevertheless put in place concrete steps to mitigate these causes of impairment. Specifically, we ask the state commissions, within nine months of the effective date of this Order, to approve and implement a batch cut migration process – a seamless, low-cost process for transferring large volumes of mass market customers – or to issue detailed findings that a batch cut process is unnecessary in a particular market because incumbent LEC hot cut processes do not give rise to impairment in that market. We believe that the institution of such processes could significantly reduce or eliminate the causes of impairment we identify, thereby enabling significantly greater facilities-based competition in mass market switching.

424. While the record establishes that, on a national level, requesting carriers are impaired without access to unbundled local circuit switching when serving mass market customers, we institute a more granular market-by-market analysis of impairment on a going forward basis. Specifically, we provide enumerated impairment triggers and criteria for the states to apply in individual markets. In conducting such an analysis, the states shall apply specific triggers to evaluate impairment in the specific market and, if the triggers are not satisfied, examine evidence of the potential for switch self-provisioning that takes into account current switch deployment, revenues, costs, processes, network architecture, and other factors in the market under consideration.[1298] If, after applying the triggers and examining evidence of switch deployment and other factors, a state commission has made a finding of impairment in

[1297] Most state commenters in this proceeding requested such a role. *See, e.g.*, NARUC Reply at 1-6.

[1298] As discussed below, a state must also examine factors including incumbent LEC performance in fulfilling unbundling, collocation, and other statutory obligations, difficulties in performing customer migrations between competitive LECs, difficulties in performing collocation cross-connects between competing carriers, and the significant cost disadvantages competitive carriers face in obtaining access to the loop and backhauling the circuit to their own switches. *See infra* paras. 456, 477-478.

any particular market, it must consider whether this impairment could be addressed by a narrower rule making unbundled switching temporarily available for a minimum of 90 days for customer acquisition purposes, rather than making unbundled switching available for an indefinite period of time.[1299] Finally, we ask the state commissions to conduct periodic reviews of impairment for unbundled local circuit switching.

425. We have asked the state commissions to take on these roles, because, as explained below, they require analysis of geographic and market specific factors.[1300] For example, hot cut processes, as well as recurring and non-recurring charges for critical UNE inputs such as collocation, loops, and transport, often vary substantially between states.[1301] Within a state UNE loop rates can vary tremendously among zones.[1302] Revenue potential also varies dramatically, as retail rates can vary between states, by the type of customer, and within the state.[1303] State

[1299] We refer to this as "rolling use" because a competitive LEC gets access to unbundled local circuit switching for each customer acquisition for some defined period of time, and, at the end of this period, it must upgrade that customer to its own facilities.

[1300] Chairman Powell maintains that our switching analysis is flawed because, he claims, the economic criteria we set forth might be applied by the states in "divergent and subjective ways." *Chairman Powell Statement* at 8; *see also id*. at 8 n.20 (citing the "subjective, multi-factor impairment [switching] analysis"). This criticism is flatly inconsistent with the high-capacity loop and transport sections, which Chairman Powell proposed and the Commission unanimously approved. Just as in those sections, states must first employ triggers that examine actual deployment; only if the triggers are not met must the states apply criteria to assess whether entry is uneconomic. The criteria we provide for switching are no more "subjective" or susceptible to "divergent" application than are the criteria we provide for high-cap loops and transport. With respect to loop facilities, for example, the state must examine a range of factors to determine whether "competitive LECs could economically deploy loop transmission facilities at that location at the relevant capacity level." *See supra* para. 335. These factors include "evidence of alternative loop deployment at that location; local engineering costs of building and utilizing transmission facilities; the cost of underground or aerial laying of fiber or copper; the cost of equipment needed for transmission; installation and other necessary costs involved in setting service; local topography such as hills and rivers; availability of reasonable access to rights-of-way; building access restrictions/costs; [and] availability of similar quality/reliability alternative transmission technologies at that particular location." *Id*.; *see also id*. at para 410 (listing similar criteria for transport). The Commission provides no guidance on how these various factors are to be assessed and weighed. In contrast, we provide considerable guidance on how to assess and weigh the factors for switching. For example, we make clear that evidence of enterprise switch deployment must be given "substantial weight" and the existence of a single competitively deployed mass market switch must be given "particularly substantial weight." *Id*. at para. 517.

[1301] According to one source, recurring loop rates can vary from $2.59 (Illinois) to $66.31 (Nevada), with a national average of $12.98. Billy Jack Gregg, *A Survey of Unbundled Network Element Prices in the United States* (Updated Jan. 1, 2003), <http://www.nrri.ohio-state.edu/documents/uneprices103.pdf> and <http://www.nrri.ohio-state.edu/documents/unepricesmatrix103_001.pdf>.

[1302] Many states have defined at least three geographic zones for the pricing of unbundled loops pursuant to section 252(d)(1) of the Act. 47 C.F.R. § 51.507(f) ("State commissions shall establish different rates for elements in at least three defined geographic areas within the state to reflect geographic cost differences.").

[1303] For a sample of 95 urban areas, residential rates for flat-rate service ranged from $14.68 (Phillipsburg, New Jersey) to $30.87 (West Memphis, Arkansas), including surcharges and taxes. Rates also sometimes vary substantially within a state, such as in California, where the residential rate is $16.39 in Salinas and $25.18 in Long Beach. *FCC Reference Book of Rates, Price Indices, and Household Expenditures for Telephone Service*, July 2002 (continued….)

commissions, which have traditionally exercised jurisdiction over intrastate telecommunications, have significantly closer proximity and more intimate knowledge of this information than does this Commission. They have greater knowledge, for instance, of how their intrastate retail rates are set, including where the implicit subsidies lie.[1304] They also have experience in making the kind of market-specific determinations we seek, from conducting interconnection arbitrations, making intrastate universal service decisions, and retail ratemaking.[1305] Accordingly, we believe that by setting specifically enumerated national triggers and criteria for impairment, which we explain below, to be applied by the state commissions, we can best provide the kind of granular impairment analysis called for by the statute.[1306]

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(*FCC Reference Book*), at Table 1.3. According to data in a separate report, rural rates can be higher (Georgia), lower (Connecticut), or the same (Massachusetts) as urban rates. TELECOMMUNICATIONS: FEDERAL AND STATE UNIVERSAL SERVICE PROGRAMS AND CHALLENGES TO FUNDING, U.S. General Accounting Office Report, GAO-02-187, Feb. 2002 (GAO Report on Universal Service), at Appendix IV. The report notes that states used different methods of setting rates, including cost-based prices (such that rural rates are higher), value-of-service pricing (such that rural rates tend to be lower), and geographic rate averaging (such that rates are constant). A nationwide examination of rates showed that there is no consistent relationship between residential rates and the cost of providing service. *Id.* at 14-15. Business customers generally pay higher rates than residential customers. Based on the survey of 95 urban areas, on average business rates are double residential rates, at $44.80 for a business purchasing a single line versus $21.84 for a residential line. *FCC Reference Book*, at Tables 1.1 and 1.8; GAO Report on Universal Service at 16 ("For every type of place, average single-line business rates are approximately twice as high as residential rates.").

[1304] The existence of such subsidies and their impact on revenue opportunities is taken into account in our impairment analysis. *See supra* Part V.B.3.

[1305] *See infra* para. 496.

[1306] *See USTA*, 290 F.3d at 422 (directing the Commission to approach the section 251(d)(2) impairment analysis by considering "market-specific variations in competitive impairment."). The BOCs and Chairman Powell have previously advocated giving the states precisely the kind of role we give the states in this item. Chairman Powell previously argued that this Commission should consider whether "regulators with closer proximity and more intimate knowledge of the availability of non-incumbent elements (*e.g.*, state commissioners) should take a leading role in that [impairment] analysis." *Statement of Commissioner Michael K. Powell, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, 14 FCC Rcd 8694, 8721 (1999); *see also*, *e.g.*, *id.* ("I am somewhat skeptical that the Commission can give meaningful effect to the requirement that we assess the availability of non-incumbent elements and related geographic variation for all areas and markets in the nation. Although I think the Commission could potentially conduct such a sweeping assessment, at least in theory, that project would likely necessitate an exhaustive, fact-intensive inquiry to which I fear the Commission would devote inadequate time and resources."); *Statement of Commissioner Michael K. Powell, Dissenting in Part, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 16 FCC Rcd 1732, 1733 n.6 (1999) ("A preferable option would have been to provide some time-limited ability for state commissions that perceive their markets are different to remove elements from the national list . . ."). For their part, the BOCs have consistently advocated for a significant state role in analyzing impairment. In the UNE Remand proceeding, for example, U S WEST argued that "[a]s Commissioner Powell has observed, state commissions have 'closer proximity and more intimate knowledge' of these facts. They would thus be ideally positioned to track such localized data on a current basis and to determine where the Commission's unbundling presumptions would or would not apply." U S WEST Comments at 30, CC Docket No. 96-98 (May 26, 1999) (citation omitted). (continued….)

426. This Commission will provide guidance to and exercise oversight of state commissions as they make these determinations. A party aggrieved by a state commission determination may seek a declaratory ruling from this Commission, and state commissions or other parties may at any time seek a declaratory ruling where necessary to remove uncertainty or eliminate a controversy.[1307] In addition, as the Commission articulated in the Local Competition Report and Order, an aggrieved party can always file a section 208 complaint with this Commission, alleging that the incumbent LEC or requesting carrier has failed to comply with the requirements of sections 251 and 252.[1308]

427. At the same time, we anticipate, and several parties have explicitly advocated, that state commission unbundling decisions will be incorporated into the arbitration agreement process; indeed, at least one party has argued that a failure to incorporate the unbundling analysis into the arbitration process would be legally suspect.[1309] Specifically, the Act provides that state commissions will resolve issues related to unbundling in conducting arbitrations between carriers and approving interconnection agreements and statements of generally available terms pursuant to the Act and regulations promulgated by this Commission. Under section 252,

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BellSouth asserted that "[i]t is imperative that the state commissions play an important part in defining network elements due to their knowledge of local market conditions and their extensive experience in making factual determinations about local competition issues." Letter from Robert T. Blau, Vice President – Executive and Federal Regulatory Affairs, BellSouth to Magalie Roman Salas, Secretary, FCC, CC Docket No. 96-98 (filed Feb. 11, 1999). GTE's general counsel, who is now general counsel for Verizon, stated that "because actual facilities deployment by CLECs varies by geographic area, type of customer and type of service, the Commission cannot adopt a single, 'one size fits all' national list of UNEs merely for the sake of simplicity and uniformity." Letter from William P. Barr, General Counsel, GTE Service Corporation, to Lawrence E. Strickling, Chief, Common Carrier Bureau, FCC, CC Docket No. 96-98 at 4 (filed March 1, 1999) (GTE Mar. 1, 1999 *Ex Parte* Letter). According to Verizon's general counsel, "[t]he rule must be tailored to accommodate variations in the facilities-based competition that already exists and that is currently possible through the use of available substitutes." *Id.* He also stated that "the Act clearly establishes a mechanism – individualized arbitrations conducted by state commissions – to take such variations into account. Any departure by the Commission from the localized determination of what elements are essential for unbundling, which the Act's arbitration process enables, must be strictly justified and narrowly tailored." *Id.* SBC agreed and argued that "[s]tates may administer the national standards set by the Commission (*e.g.*, by applying the standards to specific geographic areas or making specific factual determinations) . . . ." SBC Comments at 18, CC Docket No. 96-98 (filed May 26, 1999).

[1307] *Local Competition Order*, 11 FCC Rcd at 15563-64, para. 125.

[1308] *Id.* at 15564, paras. 127-28. Indeed, we do not believe we could prohibit such petitions and complaints, which are statutory, from being filed at the Commission.

[1309] *See* GTE Mar. 1, 1999 *Ex Parte* Letter at 4 ("It is simply not rational to attempt to determine what is 'needed,' or what will 'impair' a CLEC's ability to compete, on a single, nationwide basis and without taking into account the particular variations associated with different geographic areas and types of service. And the Act clearly establishes a mechanism – individualized arbitrations conducted by state commissions – to take such variations into account. Any departure by the Commission from the localized determination of what elements are essential for unbundling, which the Act's arbitration process enables, must be strictly justified and narrowly tailored.").

parties wishing to appeal such determinations may do so in federal district court.[1310] Accordingly, there is no exclusive right of appeal to this Commission.[1311]

428. Incumbent LECs argue that the Commission may not "punt" unbundling decisions to the states.[1312] They argue that, in those instances where impairment analysis requires a more granular approach, the Commission should establish "objective, carefully defined criteria for determining where unbundling is (and is not) appropriate."[1313] We agree. As explained in detail below, we do establish 'objective, carefully defined criteria for determining where unbundling is (and is not) appropriate.'[1314] These criteria – including our triggers – ensure that states undertake the tasks we give them consistently with the statute's substantive standards and stay within the parameters of federally established guidelines.[1315] Accordingly, we are not 'punting' unbundling decisions to the states.

[1310] *See* 47 U.S.C. § 252(e)(6).

[1311] Chairman Powell finds fault with the fact that we do not provide for exclusive appeals of state commission switching decisions to this Commission. *Chairman Powell Statement* at 8. However, the suggestion that we should bar court review of state commission switching decisions seems unnecessary and potentially conflicts with the statute. *See Local Competition Order*, 11 FCC Rcd at 15563, para. 124 ("Pursuant to section 252(e)(6), a party aggrieved by a state commission arbitration determination under section 252 has the right to bring an action in federal district court."); 47 U.S.C. § 252(e)(6) ("In any case in which a State commission makes a determination under this section, any party aggrieved by such determination may bring an action in an appropriate Federal district court to determine whether the agreement or statement meets the requirements of section 251 of this title and this section.").

[1312] Letter from Herschel L. Abbott, Jr., Vice President – Government Affairs, BellSouth *et al.*, to Michael K. Powell, Chairman, FCC at 2, *in* Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Nov. 19, 2002) (RBOC Joint Nov. 19, 2002 *Ex Parte* Letter).

[1313] RBOC Joint Nov. 19, 2002 *Ex Parte* Letter at 4.

[1314] *See*, *e.g.*, *infra* paras. 493-524.

[1315] Similarly, contrary to the dissents' assertions, we did not unlawfully delegate authority to the states. The dissents' assertions that we have failed to provide state commissions sufficient guidance in their decisionmaking is inconsistent and difficult to understand, *see Chairman Powell Statement* at 5-9; *Commissioner Abernathy Statement* at 7-8, as our approach is essentially identical to our treatment of dedicated transport and loops, which Chairman Powell proposed and both he and Commissioner Abernathy fully support. *See* Parts VI.C.4.d (transport), VI.A.4.b.(ii)(d) (loops). More importantly, the assertion is wrong.

For enterprise switches, we have made a nationwide finding of no impairment, which states can displace only by filing a petition for waiver with this Commission based on explicitly enumerated factors. For mass market switches, we make a nationwide finding of impairment and require the states to conduct a more granular analysis by applying mandatory and exhaustive federal triggers. Specifically, where a state commission determines that there are three or more carriers, unaffiliated with either the incumbent LEC or each other, that are serving mass market customers in a particular market using self-provisioned switches, the state must find no impairment in that market unless it petitions this Commission for a waiver of the trigger. A state must also find no impairment when it determines that there are two or more competitive wholesale suppliers of unbundled local circuit switching, unaffiliated with the incumbent or each other. Indeed it is exactly these kind of factors that Chairman Powell has (continued….)

2. Background

429. We note that an important function of the local circuit switch is as a means of accessing the local loop.[1316] Competitive LECs can use their own switches to provide services only by gaining access to customers' loop facilities, which predominately, if not exclusively, are provided by the incumbent LEC. Although the record indicates that competitors can deploy duplicate switches capable of serving all customer classes, without the ability to combine those switches with customers' loops in an economic manner, competitors remain impaired in their ability to provide service. Accordingly, it is critical to consider competing carriers' ability to have customers' loops connected to their switches in a reasonable and timely manner.

430. In addition, incumbent LEC local circuit switching performs several specific functions, including connecting loop facilities to the network, switching loops to other lines and trunks, and providing service capabilities to customers, such as dial tone and vertical features. In prior orders addressing the unbundling of network elements, the Commission concluded that incumbent LECs must provide access to unbundled local switching and defined the switching element to include "line-side facilities," "trunk-side facilities," and all the features, functions, and capabilities of the switch.[1317] In the *UNE Remand Order*, the Commission generally found that for the largest 50 MSAs in the country, competitors were impaired without access to switching only for serving mass market customers.[1318] Noting that commenters had not identified the characteristics that distinguish the mass market from medium and large business customers, the Commission found that a significant portion of the mass market could be identified as customers with no more than four access lines. This four-line limit would include nearly all

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advocated be used in the past. *See Commissioner Powell Second NPRM Statement* at 3 ("Further, to the extent other facilities-based competitors do not use elements of the incumbent's network, the presence of those competitors in a particular market should be probative in evaluating whether other firms would be impaired in their ability to provide service in that market absent mandated access to the incumbent's elements. It follows directly, then, that assessments of whether an element is necessary to provide service or whether failing to mandate access to that element would impair a new entrant's ability to provides service will vary significantly among different markets, states, and regions."). Where neither of these two triggers is satisfied, we establish specific and mandatory criteria that state commissions must apply to determine whether a market *allows* self-provisioning of switching. It is difficult to see how we could provide more guidance in this analysis. Indeed, we provide considerably more guidance than we do for the states' analysis of dedicated transport, which again both the dissenters voted to approve.

[1316] As discussed more fully in our discussion above regarding local loop unbundling, no party disputes that competitors need access to incumbent LECs' loops to compete in the mass market. *See infra* Part VI.A.4.a.

[1317] *See Local Competition Order*, 11 FCC Rcd at 15706, para. 412. The line-side facilities include the connection between a loop termination at, for example, a main distribution frame, and a switch line card. Trunk-side facilities include the connection between, for example, trunk termination at a trunk-side cross-connect panel and a trunk card.

[1318] *UNE Remand Order*, 15 FCC Rcd at 3821-22, para. 274.

residential users and those business users that, because they had fewer than four access lines, were more similar to residential users than they were to large businesses.[1319]

431. Although in the past the Commission's rules required incumbent LECs to provide switching unbundled from other network elements, competitors widely use unbundled local circuit switching in combination with incumbent LEC loops and shared transport.[1320] This combination has been primarily used to serve mass market customers, and within that market, depending on the state, a varying mix of residential and business customers.[1321] In contrast, new entrants that do not rely on incumbent LECs for switching generally obtain UNE-L from incumbent LECs and connect these loops to their switches.[1322]

432. In the *Triennial Review NPRM*, the Commission sought comment on whether, in light of changed circumstances, it should retain these unbundling requirements and if so, whether it should modify these requirements or the existing definition for unbundled local circuit switching.[1323] The Commission also sought comment on the benefits and burdens resulting from continuing unbundled switching and whether there are any alternative, less burdensome options to achieve the goals of the Act.[1324]

3. Definition of Unbundled Local Circuit Switching Element

433. We define local circuit switching to encompass line-side and trunk-side facilities, plus the features, functions, and capabilities of the switch.[1325] The features, functions, and

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[1319] *UNE Remand Order*, 15 FCC Rcd at 3829, paras. 292-93. Specifically, in density zone one of the top 50 MSAs, incumbent LECs that make the EEL combination available were not obligated to provide unbundled local circuit switching to requesting carriers for serving customers with four or more lines. *Id.* at 3822-31, paras. 276-78.

[1320] Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1 (filed Feb. 13, 2003) (AT&T Feb. 13, 2003 *Ex Parte* Letter).

[1321] The evidence in the record demonstrates that, by the end of 2002, more than ten million residential and small business lines were being served by competitive LECs using unbundled loops combined with unbundled local circuit switching. PACE Jan. 14, 2003 *Ex Parte* Letter at 2; *see also* George S. Ford, Ph.D, *UNE-Platform, Impairment and Natural Monopoly: Bell Company Estimates of Cost Disparities and Their Consequences* at 1, *in* Letter from Christopher J. Wright, Counsel for Z-Tel, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 29, 2003) (Z-Tel Jan. 29, 2003 *Ex Parte* Letter). Unbundled local circuit switching usage is heavily concentrated in residential markets: approximately 70% of such lines serve residential customers. Verizon Unbundled Switching Study at 3. In contrast to the other three BOCs, Qwest claims that the majority of customers in its region that are served by unbundled loops combined with unbundled local circuit switching are business customers. *Id.* This appears, however, to be due to Qwest's offering of Centrex lines (typically used for business customers) on a unbundled basis. *See id*.

[1322] As discussed above, UNE-L describes an entry mode where a competitive LEC combines unbundled loops procured from the incumbent LEC with the competitive LEC's own switching and transport network.

[1323] *Triennial Review NPRM*, 16 FCC Rcd at 22806, para. 55.

[1324] *Id*.

[1325] 47 C.F.R. § 51.319(c)(1).

capabilities of the switch include the basic switching function of connecting lines to lines, lines to trunks, trunks to lines, and trunks to trunks. In addition, we conclude that the features, functions, and capabilities of the local circuit switching UNE also include the same basic capabilities that are available to the incumbent LEC's customers, such as telephone number, directory listing, dial tone, signaling, and access to 911, and, in the cases described below, operator services and directory assistance.[1326] The end office switching element includes all vertical features that the switch is capable of providing, including custom calling, CLASS features, and Centrex, as well as any technically feasible customized routing functions. Thus, when a requesting carrier purchases the unbundled local switching element, it obtains all switching features in a single element on a per-line basis. A requesting carrier will deploy individual vertical features on its customers' lines by designating, via an electronic ordering interface, features which the incumbent LEC must activate for particular customer lines.[1327]

434. We disagree with SBC that, to the extent that the switch is unbundled, the Commission should not unbundle access to switch routing tables.[1328] We include access to switch routing tables as a "function" of the switch because one of the most essential functions a switch performs is to provide routing information that sends a call to the appropriate destination.[1329] Requiring requesting carriers to engage in the potentially lengthy process of compiling traffic studies and populating routing tables with data in the incumbent LEC's switch would deny a requesting carrier meaningful access to unbundled local circuit switching to serve customers. Accordingly, consistent with the Commission's finding in the *Local Competition Third Order on Reconsideration*, we find no support for SBC's assertion that the switch as a

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[1326] *See infra* Part VI.H.2. We readopt here the definitions of "operator services" and "directory assistance" set forth in the *UNE Remand Order*. *See UNE Remand Order*, 15 FCC Rcd at 3892, para. 443.

[1327] Because signaling networks are accessed via the switch, when carriers purchase switching as a UNE under the terms established in this Order, they shall continue to obtain access to the incumbent LEC's signaling networks. Moreover, because competitive carriers access call-related databases through signaling networks, in such instances where switching remains a UNE, competitive carriers purchasing the switching UNE shall have access to the call-related databases that the signaling networks permit carriers to access. *See infra* Parts VI.G, VI.H. Indeed, in light of the technical complexity associated with making the necessary network modifications to use an incumbent's switch in combination with competitively provided signaling networks and call-related databases, it seems unlikely that incumbents would prefer a different rule. We also note that, as described above, when a requesting carrier purchases unbundled access to the incumbent LEC's switching, the incumbent LEC must also offer unbundled access to operator service and directory assistance (OS/DA) services if the incumbent LEC does not provide customized routing.

[1328] SBC Comments at 79-81 (arguing that routing tables should not be unbundled because they contain confidential information).

[1329] *See In the Matter Of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, CC Docket Nos. 96-98, 95-185, Third Order on Reconsideration and Further Notice of Proposed Rulemaking, 12 FCC Rcd 12460, 12486-87, para. 45 (1997) (*Local Competition Third Reconsideration Order*) (rejecting Ameritech's arguments that the Commission should not unbundle switch routing tables).

network element does not include access to the functionality provided by the incumbent LEC's routing tables.[1330]

4. Impairment Analysis

a. Evidence of Switch Deployment

435. In conducting our impairment analysis, we first consider evidence of competitive LEC circuit switch deployment in the relevant customer market. As indicated above, evidence of self-deployment is the best indicator of whether competitive LECs have been able to overcome barriers to entry with respect to facilities deployment.[1331] We find that the extent of competitive LEC circuit switch deployment varies tremendously in the enterprise and mass markets. In particular, we find that the record demonstrates significant nationwide deployment of switches by competitive providers to serve the enterprise market, but extremely limited deployment of competitive LEC circuit switches to serve the mass market. [1332]

436. There is no dispute in the record that competitive carriers have significantly increased their switch deployment and the number of lines they have served since 1999. Specifically, the record shows that competitive LEC switch deployment has almost doubled in two years, growing from 700 in 1999 to as much as 1,300 in 2001.[1333] In addition, more than 200

[1330] *Local Competition Third Reconsideration Order*, 12 FCC Rcd at 12487, para. 45. Because we continue to require access to routing tables to the extent we unbundle switching, we reject CompTel's argument that proprietary treatment prevents unbundling of such tables, and deny CompTel's petition for reconsideration of this conclusion. CompTel Feb. 17, 2000 Petition for Reconsideration at 17-18.

[1331] *See supra* Part V.B.1.d.

[1332] Chairman Powell offers contradictory arguments to support his opposition to unbundled switching. He first argues that there are sufficient switching alternatives already used to serve the mass market and then argues that such alternatives will not be deployed so long as unbundled switching is available. *Compare Chairman Powell Statement* at 11-12 with 13. Chairman Powell also suggests that any impairment determination for switching should be overridden by "the social and economic costs of unbundling switching" and thus there is no need even to conduct an impairment analysis. We disagree that this Commission should reach such a conclusion for the entire nation on the basis of the current record and believe an impairment analysis should be conducted. Moreover, Chairman Powell seems to focus only on the costs or benefits depending on whether or not he wants to retain access to an element. For example, with respect to line sharing he ignores the impairment standard and argues that line sharing should be retained because it "has generated clear and measurable benefits for consumers." *Chairman Powell Statement* at 1. With regard to switching he appears to disregard the "clear and measurable benefit to consumers" standard and instead focuses only on the costs of unbundling.

[1333] *See, e.g.*, BOC UNE Fact Report 2002 at II-1-II-2, II-4 (citing numbers based on Jan. 2002 LERG data and a New Paradigm Resources Group (NPRG) Report based on year-end 2001 data); *Local Competition Rules Must Encourage Investment and Job Growth in the Telecommunications Industry*, *in* Letter from Debbie Goldman, Research Economist, Research and Development Department, Communications Workers of America, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Feb. 6, 2003) (CWA Feb. 6, 2003 *Ex Parte* Letter). For example, BellSouth estimates that there are 284 competitive voice switches deployed in its region. *See* Letter from Robert T. Blau, Vice President – Executive and Federal Regulatory Affairs, BellSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 02-33, Attach. at 10 (filed Jan. 24, 2003) (BellSouth Jan. 24, 2003 *Ex Parte* Letter). BellSouth estimates that, since the release of the *UNE Remand Order*, the number (continued….)

competitive LECs of all sizes have deployed local voice switches.[1334] The record also shows that vendors have produced switches (at declining prices) that are readily available for purchase.[1335] These switches are capable of serving significantly broader service areas than traditional incumbent LEC rate centers.[1336]

437. Incumbent LECs claim that the Commission should remove virtually all unbundling obligations regarding local switching on a national basis simply because competitive carriers have deployed 1,300 switches and are serving, according to the BOC UNE Fact Report 2002, over 16 million lines with those switches.[1337] This argument, however, ignores significant differences in the evidence concerning the enterprise market and mass market. The record is replete with evidence showing that competitive LECs are successfully using their own switches to serve large business customers that require high-capacity loops (which can be connected to

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of competitive LEC switches in the Atlanta, Miami, and New Orleans MSAs have doubled. BellSouth Comments at 79. *But see* Letter from Kimberly Scardino, Senior Counsel, WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Jan. 31, 2003) (WorldCom Jan. 31, 2003 Switching *Ex Parte* Letter). WorldCom argues that the record demonstrates that the 1,300 switches cited in the BOC UNE Fact Report are overstated by at least 33% once various inaccuracies are corrected. First, WorldCom states that the BOCs' estimate of competitive LEC switches includes "hundreds of switches" that can only be used to serve customers with high-capacity connections or PBXs. *Id.* at 2. Second, WorldCom states that the record demonstrates that the BOC UNE Fact Report overstates the number of switches deployed by four competitive LECs by 105 switches, or 8%. *Id*. at 2; Letter from Dana Frix, Counsel for Bridgecom and Metropolitan Telecommunications, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Feb. 5, 2003) (Bridgecom Feb. 5, 2003 *Ex Parte* Letter). WorldCom's criticisms of the BOCs' computations, however, would also apply to the 700 competitive switches the BOCs claim existed in 1999, resulting in a lower figure. WorldCom's filing does not set forth the effects its analysis would have on a year-to-year basis. Thus, even taken at face value, that filing fails to refute the central point that competitive switching deployment has risen dramatically.

[1334] BOC UNE Fact Report 2002 at II-1. The BOC calculation of 1,300 competitive LEC local circuit switches does not include packet switches. BOC UNE Fact Report 2002 at I-1 (stating that competitive LECs have deployed approximately 1,700 packet switches). We note that the record reflects that competitive LEC deployed packet switches are not used to serve analog mass market customers. *See, e.g*., WorldCom Jan. 31, 2003 Switching *Ex Parte* Letter at 3 ("As WorldCom and other CLECs have demonstrated, the types of circuits provisioned and the equipment used to serve business customers are quite different than those used to serve analog residential and small business customers.").

[1335] Z-Tel Reply at 45.

[1336] BOC UNE Fact Report 2002 at II-1.

[1337] BellSouth Comments at 77-90; Qwest Comments at 20-31; Verizon Comments at 94-105. Qwest would eliminate the unbundled switching requirements in areas where multiple competitive LECs have deployed their own switches. *See* Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Feb. 13, 2003) (Qwest Feb. 13, 2003 *Ex Parte* Letter). For those LATAs where competitive LECs have deployed three or more local exchange voice switches, Qwest would have this Commission eliminate local circuit switching as a UNE. The Qwest proposal assumes that if three competitive LEC switches physically exist in a LATA, a wholesale market for local switching will develop, thereby enabling competitive LECs to refrain from deploying their own switches to serve customers.

competitive carrier switches with few of the obstacles that affect voice-grade loops).[1338] For example, BiznessOnline.Com cites data compiled by a coalition of competitive carriers which examined six representative markets and found that approximately 90 percent of the loops used by competitive carriers in these markets are DS1 capacity or higher loops.[1339] Specifically, according to the BOCs, competitive LECs are, as of year-end 2001, serving at least 13 million business lines over their own switches.[1340]

438. On the other hand, the record indicates that competitive LECs have self-deployed few local circuit switches to serve the mass market.[1341] The BOCs claim that, as of year-end 2001, approximately three million residential lines were served via competitive LEC switches.[1342] Others argue that this figure is significantly inflated.[1343] Even accepting that figure, however, it represents only a small percentage of the residential voice market. It amounts to less than three percent of the 112 million residential voice lines served by reporting incumbent LECs.[1344]

439. We find, moreover, that the BOCs' competitive LEC residential line count does not accurately depict the ability of an entering competitive LEC to overcome the barriers to entry generated by the hot cut process, and to serve the mass market using incumbent LEC loops. Specifically, many of the lines cited by the incumbents are served by carriers that, for one reason or another, are able to use their own loops. We have made detailed findings that competitors are

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[1338] *See, e.g.*, ATX Jan. 22, 2003 *Ex Parte* Letter at 1-2, 4 (stating that competitive carriers are deploying switches to serve high volume customer locations that require DS1 or higher loop connectivity); WorldCom Jan. 31, 2003 Switching *Ex Parte* Letter at 1; AT&T *et al.* Feb. 3, 2003 *Ex Parte* Letter at 2. Since 1999, AT&T has continued to deploy circuit switches, but uses those switches almost exclusively to provide service to large businesses. AT&T Comments at 207-09, 219; AT&T Comments, Attach. A, Declaration of Ellyce Brenner (AT&T Brenner Decl.) at paras. 24-29; *see also* Z-Tel Comments at 48-50 ("The fact that some CLECs have deployed switches to serve the large business market or broadband market does not support the conclusion that CLECs are not impaired without access to unbundled switching to serve the mass market."); CompTel Comments at 62-63.

[1339] *See* BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 23 (citing CCG July 17, 2002 CLEC Survey *Ex Parte* Letter at Table 4).

[1340] BOC UNE Fact Report 2002 at II-1; Verizon Unbundled Switching Study at 3.

[1341] Letter from Marc A. Goldman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Nov. 13, 2002) (WorldCom Nov. 13, 2002 Unbundled Switching *Ex Parte* Letter).

[1342] BOC UNE Fact Report 2002 at II-1. This number may count only competitor lines in BOC-served territories, excluding the former GTE and SNET territories. BOC UNE Fact Report 2002 at II-4, Table 2.

[1343] BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 24; Z-Tel Reply at 41; AT&T Pfau Reply Decl. at paras. 28-31.

[1344] Industry Analysis and Technology Division, Wireline Competition Bureau, *Statistics of Communications Common Carriers September 2002 Report* at Table 2.6. The 112 million line figure represents the number of residential access lines for incumbent LECs that are required to report residential line figures to the Commission. *Id.*

impaired without access to incumbents' voice-grade local loops.[1345] Indeed, no party seriously contends that competitors should be required to self-deploy voice-grade loops.[1346] Thus, for the typical entrant, entry into the mass market will likely require access to the incumbent's loops, using the UNE-L strategy. As described below, this strategy raises operational and economic difficulties associated with accessing the loop.[1347] Indeed, as discussed above, a crucial function of the incumbent's local circuit switch is to provide a means of accessing the local loop.[1348]

440. Of the three million residential lines purportedly served by competitive switches at year-end 2001, approximately 2.2 million lines were served by cable telephony providers that bypass the incumbent LECs' networks entirely.[1349] Of the remaining access lines, Z-Tel offers evidence that most are served by large, independent incumbent LECs expanding into adjacent areas and by cable overbuilders.[1350] Z-Tel then estimates that only 200,000 mass market lines are served through UNE-L.[1351] Accordingly, much of the deployment relied upon by the BOCs in fact provides no evidence that competitors have successfully self-deployed switches as a means to access the incumbents' local loops, and have overcome the difficulties inherent in the hot cut process.[1352]

[1345] *See supra* Part VI.A.4.a.(v).(a).

[1346] Nor is there any wholesale market for such loops. *See* Access Integrated Networks Reply at 13; Allegiance Reply at 32-33; Covad Comments at 35-37; WorldCom Reply at 87.

[1347] *See supra* Part VI.D.6.a.(i).

[1348] *See supra* Part VI.D.2.

[1349] Industry Analysis and Technology Division, Wireline Competition Bureau, *Local Telephone Competition: Status as of December 31, 2001* (July 2002) at Table 5 (*Local Telephone Competition July 2002 Report*). As noted above, in mid-2002, cable telephony represented 2.6 million access lines, a 39% growth over the previous year. *Id*. at Table 5. Virtually all cable subscribers are mass market customers. *See* AT&T Comments at 224 (noting that "virtually no businesses subscribe to cable"); *see also* WorldCom Comments, Attach. A at 21 ("The cable industry provides service to almost no large business customers."), 37 ("Cable systems were for the most part built to serve residential and suburban areas."), 35 ("Cable television systems do not have the capacity to serve large numbers of business customers requiring DS-1 and higher-speed services."). The BOCs' arguments confirm that cable is primarily suited for service to residential customers, rather than to business customers. *See, e.g.*, BellSouth Comments at 38-41; SBC Comments at 53, 56; Verizon Comments at 12-14.

[1350] Z-Tel Reply at 43-46; *see also* WorldCom Reply at 143-44 ("Others such as TDS Telecom and ALLTEL are using their monopoly incumbent LEC base to expand into neighboring incumbent territories."). Z-Tel argues that the 1996 Act was not intended to foster local competition only by companies with the resources of cable or incumbent assets. Z-Tel Reply at 41-43. In addition, WorldCom argues that the small group of competitive LECs that have deployed switches serving the mass market, including the cable overbuilders, focus only on high-density areas and that their future expansion is in doubt. WorldCom Reply at 143-44.

[1351] Z-Tel Reply at 48-49.

[1352] We note, however, that some of this competitive deployment could be considered by states in determining whether the triggers discussed below have been satisfied in specific markets.

441. Additionally, the BOCs' suggestion that our analysis should treat switches deployed to serve large enterprise customers exactly the same as those deployed to serve mass market customers ignores the substantial modifications, and attendant costs, necessary to serve mass market customers with an enterprise switch. For example, in order to enable a switch serving large enterprise customers to serve mass market customers, competitive LECs may need to purchase additional analog equipment, acquire additional collocation space, and purchase additional cabling and power.[1353] Thus, while we agree that deployment of an enterprise switch is one piece of evidence relevant to the possibility of serving mass market customers – and, indeed, our impairment analysis takes such deployment into account, as discussed below – the fact remains that competitors using their own switches are currently serving extremely few mass market customers, through enterprise switches or otherwise.[1354]

442. Moreover, because no party offers evidence to show that third parties are currently offering switching on a wholesale basis – that is, selling switching capacity to third-party carriers to use in their offerings – we find that no significant third-party alternatives to unbundling local switching exist. Thus, we are unable to find that this evidence demonstrates that competitive LECs are able to economically enter the mass market without unbundled access to incumbent LEC circuit switching.

443. *Intermodal Switching Alternatives*. We determine that, although the existence of intermodal switching is a factor to consider in establishing our unbundling requirements, current evidence of deployment does not presently warrant a finding of no impairment with regard to local circuit switching.[1355] In particular, we determine that the limited use of intermodal circuit

[1353] *See, e.g.*, WorldCom Nov. 18, 2002 Transition to UNE-L *Ex Parte* Letter at 7. WorldCom states that in order to modify one of its switches in Manhattan serving enterprise customers to serve the mass market, WorldCom would be required to: purchase and install analog-capable equipment; increase the existing collocation cage space by 200 square feet; and pay Verizon for additional cabling and power. *Id.*

[1354] The dissents' assertion that enterprise switches should be considered in our mass market triggers ignores these substantial differences between the switches serving the different markets. *Chairman Powell Statement* at 6; *Commissioner Abernathy Statement* at 4-5. Most importantly, as explained above, unlike mass market loops, facilities used to serve enterprise customers are typically not pre-wired to incumbent LEC switches, allowing competing carriers to avoid the costs and service disruptions associated with hot cuts. The dissents also ignore the substantial differences in the mass market and the enterprise market – such as the fact that enterprise customers generally offer increased revenue opportunities and are more willing to enter long-term contracts than are mass market customers. These differences elsewhere led them to agree to "conduct separate . . . impairment analyses based on [among other things] two relevant customer classes – the mass market and the enterprise market." *See supra* para. 197. Our loops discussion, for example, conducts an entirely separate analysis and arrives at different conclusions for loops used to serve mass market customers than it does for loops used to serve enterprise customers. *See supra* Part VI.A. While we do not make the same distinction for transport, that is only because transport is used to aggregate significant volumes of traffic, and neither the economics nor the operations significantly differ for mass market and enterprise customers. As we indicate, however, that is an exception to the practice adopted by the Commission and explicitly approved by both the dissenters. *See supra* para. 197.

[1355] We note that our analysis of intermodal switching alternatives is informed by the evidence of intermodal alternatives relating to local loops. Because commenters devoted a significant amount of discussion to cable and wireless facilities as substitutes for local loops, evidence of intermodal alternatives is also discussed under our analysis of local loop unbundling.

switching alternatives for the mass market is insufficient for us to make a finding of no impairment in this market, especially since these intermodal alternatives are not generally available to new competitors.[1356]

444. The Commission's *Local Competition Report* shows that only about 2.6 million homes subscribe to cable telephony on a nationwide basis,[1357] even though there are approximately 103.4 million households in the United States.[1358] Moreover, the record indicates that circuit-switched cable telephony is only available to about 9.6 percent of the total households in the nation.[1359] Ultimately, because retrofitting cable infrastructure to support cable telephony requires substantial investment and modification, and because significant technical and operational issues must still be resolved for those cable operators that have not already augmented their networks to offer cable telephony (which are the majority of the cable networks currently in operation), it is difficult to predict at what point cable telephony will be deployed on a more widespread and ubiquitous basis.[1360]

445. We also find that, despite evidence demonstrating that narrowband local services are widely available through CMRS providers, wireless is not yet a suitable substitute for local circuit switching.[1361] In particular, only about three to five percent of CMRS subscribers use their service as a replacement for primary fixed voice wireline service, which indicates that

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[1356] BOC UNE Fact Report 2002 at IV-8 to IV-14. Current estimates are that only 1.7% of U.S. households rely on other technologies to replace their traditional wireline voice service. Allegiance Reply at 35.

[1357] *Local Telephone Competition December 2002 Report* at 2. In their joint BOC UNE Fact Report 2002, the BOCs claim that 1.5 million homes subscribe to cable telephony. BOC UNE Fact Report 2002 at IV-10.

[1358] *See Telephone Subscribership November 2002 Report* at Table 1. According to Verizon, cable telephony providers already offer circuit switched telephone services to some ten million households nationwide, already serve more than two million lines, and are adding roughly 100,000 lines each month. *See* Letter from Michael E. Glover, Senior Vice President and Deputy General Counsel, Verizon, to William F. Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1 (dated Jan. 10, 2003) (Verizon Jan. 10, 2003 Switching *Ex Parte* Letter) *in* Letter from Ann D. Berkowitz, Project Manager – Federal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 10, 2003) ; *see also Unbundling Switching, UNE-P, and Hot Cuts*, SBC Presentation to FCC, *in* Letter from Brian J. Benison, Associate Director – Federal Regulatory, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 10 (filed Jan. 7, 2003) (SBC Jan. 7, 2003 *Ex Parte* Letter).

[1359] BOC UNE Fact Report 2002 at II-11, IV-10 (noting that Cox has the capability to offer cable telephony to "75 to 95 percent" of the consumers in Rhode Island).

[1360] BellSouth Comments at 38, 40 (citing *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 01-129, 8th Annual Report, FCC 01-389, at para. 34 (2001)).

[1361] The Commission, however, recently relied on wireless broadband PCS substitution to support Track A findings in two section 271 proceedings where residential customers in New Mexico and Nevada had replaced their landline service with wireless service. *SBC Nevada 271 Order*, 18 FCC Rcd at 7206, para. 18; *Qwest New Mexico 271 Order*, 18 FCC Rcd at 7336 n.53; *see also BellSouth Louisiana II 271 Order*, 13 FCC Rcd at 20606, 20622-23, paras. 11, 29-30. This, however, was based on a different analysis than that required under the necessary and impair standards.

wireless switches do not yet act broadly as an intermodal replacement for traditional wireline circuit switches.[1362] Lastly, the record demonstrates that wireless CMRS connections in general do not yet equal traditional landline facilities in their quality and their ability to handle data traffic.[1363]

446. Moreover, both cable and CMRS are potential alternatives not simply for switching, but for the entire incumbent LEC telephony platform, including the local loop. We are unaware of any evidence that either technology can be used as a means of accessing the incumbents' wireline voice-grade local loops.[1364] Accordingly, neither technology provides probative evidence of an entrant's ability to access the incumbent LEC's wireline voice-grade local loop and thereby self-deploy local circuit switches. Rather, competition from cable telephony and CMRS providers only serves as evidence of entry using *both* a self-provisioned loop *and* a self-provisioned switch.

447. *Impact of Unbundling on Switching Deployment*. Commenters have raised questions regarding the impact of unbundling on carriers' incentives to construct and deploy switching facilities.[1365] We find that the record evidence on this matter is inconclusive. As we

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[1362] *See Seventh Wireless Report 2002* at 32 n.208; *see also* BOC UNE Fact Report 2002 at IV-12 (citing *Sixth Wireless Report 2001*, 16 FCC Rcd at 13381 n.211).

[1363] BellSouth Comments at 41 (stating that wireless is ineffective in transmitting large amounts of data at high speeds); *see also* AT&T Reply at 25, 162-63 (stating that wireless service is engineered to provide only roughly 70% call completion rate while wireline call completion rates exceed 99%).

[1364] *See infra* Part V.B.

[1365] The dissents also argue that triggers based on deployment will never be met for switching because the unbundling of switching itself creates such a disincentive for deployment that neither competitors nor incumbents will build new switching facilities. *Chairman Powell Statement* at 5-6; *Commissioner Abernathy Statement* at 4-5. The dissents offer no evidence whatsoever to support this conclusion. To the contrary, the Chairman himself acknowledges that, despite the current nationwide availability of unbundled switching, "a number of competitors have overcome whatever economic impediments exist and are using that switching capability to serve mass market customers." *Chairmant Powell Statement* at 7. Moreover, neither Chairman Powell nor Commissioner Abernathy explain how their disincentives argument is consistent with the conclusions they support throughout the rest of the Order that the best evidence of lack of impairment is "evidence that new entrants are providing retail services in the relevant market using non-incumbent LEC facilities." *See supra* paras. 93-94. Indeed, in both the transport and high-capacity loop sections of the Order, they have agreed to eliminate unbundling obligations only after a finding that there is sufficient deployment of alternative facilities. As both dissenters have agreed in the transport section, the probability of a disincentive effect from unbundling is addressed by establishing relatively low thresholds for the triggers. *See supra* para. 413 & note 1274. Thus, for example, the triggers for the transport network element eliminate unbundling requirements on a particular route where there are three competitive self-providers of transport or two competitive wholesale providers. These are the same thresholds that we use for eliminating unbundled switching. In addition, similar to transport and loops, even where there is no deployment and these triggers are not met, states must consider whether potential deployment is possible based on specific criteria consistent with our impairment standard.

Looking at the record on this point, we found the evidence of disincentives inconclusive at best. The incumbents' evidence purports to show disincentives consisted of studies alleging that as lines served by unbundled loops combined with unbundled local circuit switching increases in a given state, the number of facilities based (continued….)

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competitive LEC-owned lines decreases. However, as explained in the Order, these studies suffer from fundamental flaws that undermine their probative value. *See infra* note 1374. At the same time, there were studies purporting to show that unbundling obligations in fact encourage carriers to make capital investments in facilities. *See infra* note 1373. In the end, we found neither compelling. We found significantly more probative the evidence that in areas where competitors have their own switches for other purposes (*e.g.*, enterprise switches), they are not converting them to serve mass market customers and are instead relying on unbundled loops combined with unbundled local circuit switching. Given the fixed costs already invested in these switches, competitors have every incentive to spread the costs over a broader base. Their failure to do so bolsters our findings that significant barriers caused by hot cuts and other factors make entry uneconomic.

Chairman Powell's suggestion that the number of lines that competing carriers serve with their own switches has decreased while the number of lines served with unbundled switching has increased is simply wrong. *See Chairman Powell Statement* at 6. In fact, Commission data show that the number of customers served with self-deployed switches has consistently increased. For example, incumbent LECs provided about 3.2 million unbundled loops without switching in June 2001, about 3.7 million unbundled loops without switching in December 2001, about 4.1 million unbundled loops without switching in June 2001, and about 4.3 million unbundled loops without switching in December 2002. *See Local Telephone Competition*, Status as of December 31, 2002 (June 2003); *Local Telephone Competition*, Status as of June 30, 2002 (December 2002); *Local Telephone Competition*, Status as of December 31, 2001 (July 2002); *Local Telephone Competition*, Status as of June 30, 2001 (February 2002); *Local Telephone Competition*, Status as of December 31, 2000 (May 2001); *Local Telephone Competition*, Status as of June 30, 2000 (December 2000); *Local Telephone Competition*, Status as of December 31, 1999 (August 2000). Thus, the availability of unbundled switching does not appear to have stopped the development of facilities-based competition. While Chairman Powell is correct that, in certain states, the rate of growth in lines using unbundled switching has increased at a higher rate than has the rate of growth for lines served with competitively deployed switches, that fact falls far short of showing any significant disincentive effect from the availability of unbundled switching. More importantly, this data is fully consistent with the evidence in the record that significant barriers caused by hot cuts and other factors make self deployment uneconomic. *See supra* paras. 466-470. For example, the record shows that AT&T spent over $11 billion in an effort to use its own switches with unbundled loops to serve low-volume business customers, but that this effort failed as a result of hot cut problems. *See* AT&T Comments at 218. Customer conversions took an average of 45 days from the time of sale to the establishment of dial tone. *See id*. at 219. Service outages during cutovers occurred 6 to 9% of the time. *See id*. As a result, over half of AT&T's orders were cancelled prior to actual conversion. *See id*. Chairman Powell offers no response whatsoever to this evidence or the other evidence in the record on the barriers caused by hot cuts.

Moreover, the dissents fail to consider the incentives created by our decisions on packet switching and advanced services. Specifically, we no longer unbundle packet switching and the advanced networks used with such switching. This means that to the extent there are significant disincentives caused by unbundling of circuit switching, incumbents can avoid them by deploying more advanced packet switching. This would suggest that incumbents have every incentive to deploy these more advanced networks, which is precisely the kind of facilities deployment we wish to encourage. At the same time, competitors have incentives to build comparable facilities to compete. And because we count competitive deployment of packet switches – and other intermodal facilities – in our circuit switching triggers, such deployment can lead to the elimination of unbundling requirements on circuit switches.

In the end, the dissents would simply eliminate unbundled switching and wait for competition to arise from other platforms. We have chosen to eliminate unbundling more gradually, as we do for other elements, by both attacking the causes of impairment for circuit switching and encouraging intermodal competition through the switching triggers. Unlike the approach advocated by the dissents, our approach maintains appropriate incentives without throwing away the competition that exists today.

(continued….)

have explained above, section 251(d)(2)'s "at a minimum" clause permits us to consider, when appropriate, factors that are closely tied to the purposes of the statute but distinct from the "necessary" and "impair" standards in reaching an unbundling determination.[1366] Above, we have exercised this authority in our analysis of FTTH and hybrid loops, where we have given weight to section 706's directive that the Commission "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans."[1367] While section 251(d)(2) permits us to consider factors other than the statutory "necessary" and "impair" standards, we are mindful of the courts' admonitions that we not extend incumbents' unbundling obligations more widely than required to fulfill the purposes of the Act. As explained above, we thus apply the "at a minimum" language with due restraint. Here, we consider investment incentives in the context of unbundled local circuit switching, but conclude that given the insufficient record evidence on this issue and the fact that the goals of section 706 are not directly implicated in the context of switching, our findings of impairment are not overcome in this context.

448. Although our consideration of investment incentives in our FTTH and hybrid loops decisions is largely driven by the Act's direction to do so contained in section 706, we believe that consideration of economic incentives, pursuant to section 251(d)(2)'s "at a minimum" language, is appropriate in the context of unbundled circuit switching because such consideration accords weight to the Act's aim of encouraging facilities-based competition. As explained above, the Supreme Court in *Verizon* emphasized that the Commission has discretion to evaluate the role of investment incentives when implementing the Act's local competition provisions.[1368] We note, however, that the particular incentives primarily at issue here differ in a key respect from those at issue in the FTTH and hybrid loops discussion above. There, the primary inquiry involved the *incumbents'* incentives to develop and deploy new broadband-capable loop facilities if those facilities were subject to unbundling. Here – where the

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Finally, we note that to the extent Chairman Powell and Commissioner Abernathy are concerned that the price of using unbundled switching is too attractive when compared with using self-deployed switches, this issue is more appropriately addressed in the forthcoming proceeding on TELRIC pricing.

[1366] *See supra* Part V.D. Section 251(d)(2) provides that "the Commission shall consider, *at a minimum*, whether . . . the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer." 47 U.S.C. § 251(d)(2) (emphasis added).

[1367] The Commission *considers* services with upstream and downstream speeds in excess of 200 kbps to display "advanced telecommunications capability." *Third Section 706 Report 2002*, 17 FCC Rcd at 2850, para. 9.

[1368] *Verizon*, 535 U.S. at 500; *see also id.* at 523 ("In short, the incumbents have failed to carry their burden of showing unreasonableness to defeat the deference due the Commission."). In *Verizon*, the Court recognized that it was in no position to assess the precise economic significance of the parties' opposing arguments regarding incentives created by TELRIC, and that it "ha[d] no idea whether a different forward-looking pricing scheme would have generated even greater competitive investment than the $55 billion that the entrants claim." *Id.* at 517. Thus, it merely acknowledged that the Commission had been forced to decide whether it was "better to risk keeping more potential entrants out, or to induce them to compete in less capital-intensive facilities with lessened incentives to build their own bottleneck facilities," and found that in such circumstances, "[i]t was not obviously unreasonable for the FCC to prefer the latter." *Id.* at 510.

incumbents already operate ubiquitous legacy circuit switching networks – our inquiry into unbundling's impact on investment incentives focuses primarily on the *competitive LECs*' incentives to deploy alternative switching facilities. In fact, given that we do not require packet switches to be unbundled, there is little, if any, basis for an argument that our treatment of circuit switches gives LECs a disincentive to upgrade their switches.

449. The parties submit conflicting evidence regarding the relationship between unbundled local circuit switching and investment incentives. The incumbent LECs claim that unbundling obligations undermine competitive LECs' incentives to invest in local circuit switching facilities because the competitive carriers will always prefer to use the incumbent's switching facilities, which are available to them at TELRIC rates that assume the use of the most efficient technologies available.[1369] For example, the incumbents' *UNE-P and Investment* study asserts that as unbundled local circuit switching usage increases in a given state, the number of competitive LEC-owned lines decreases.[1370] Competitive LECs deny that elimination of unbundled local switching will result in additional competitive LEC switch deployment.[1371] In support of their contentions, however, the competitive carriers advance their own studies purporting to show that unbundling obligations in fact encourage carriers to make capital

[1369] Incumbents also argue that local circuit switch unbundling obligations undermine their *own* incentives to make capital investment in their own facilities because competitive LECs are free to use those same facilities, at TELRIC rates, to compete for the incumbent LECs' customers. *See, e.g.*, SBC Comments at 6.

[1370] Verizon Unbundled Switching Study. The study consisted of a univariant regression, which AT&T characterizes as a correlation study. *See also* Verizon Reply, App. 1, Harold Ware, *UNE-P Use and Facilities-Based Competition, in New York and Other States*, *in* Z-Tel Nov. 7, 2002 *Ex Parte* Letter. The study regresses competitive LEC facilities based access lines per 1,000 BOC access lines against competitive LEC access lines served by unbundled loops combined with unbundled local circuit switching per 1,000 BOC access lines for all states where competitive LEC access lines (unbundled loops combined with unbundled local circuit switching and full facilities) combined exceed 10% of BOC lines. Verizon Unbundled Switching Study at 3-4.

[1371] AT&T Comments at 222-23; WorldCom Reply at 153-57. WorldCom, for example, claims that it has built more switches in states where unbundled switching has been available without restriction. *See also* Letter from Lawrence R. Freedman, Counsel for WorldNet, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 3 (filed Jan. 6, 2003) (WorldNet Jan. 6, 2003 *Ex Parte* Letter) (stating that its business plan is largely dependent upon its ability to purchase unbundled loops combined with unbundled local circuit switching from the incumbent as a transition step). SBC challenges this claim. *See* SBC Jan. 7, 2003 *Ex Parte* Letter at 6 (stating that, in New York, AT&T and WorldCom operate 28 switches and serve over one million residential customers using unbundled incumbent LEC local circuit switching, but have not converted a single residential customer to their switches); CWA Jan. 14, 2003 *Ex Parte* Letter. We find, however, that the fact that competitors have not converted unbundled loops combined with unbundled local circuit switching or served residential customers with existing switches only serves to demonstrate the barriers to such service. AT&T Comments at 207-08, 224-31; BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 23-24; Z-Tel Comments at 34-36; WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter at 3-4. Given the sunk costs already invested in deployed switches, competitors have every incentive to spread those costs over a larger base. AT&T Comments at 211-12; BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 2-3; NewSouth Reply at 29-30; Z-Tel Comments at 52-54 & n.113. Barriers caused by hot cuts and other factors simply make this uneconomic. AT&T Comments at 207-08, 212, 214-17; BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 8-11; NewSouth Reply at 26-28; Z-Tel Comments at 35-36.

investments to meet increasing competition.[1372] We find, however, that the economic studies presented by both sides of the industry suffer from several fundamental flaws that undermine their probative value.[1373] Thus, we are unable to conclude from the parties' studies that the availability of unbundled local circuit switching either depresses or stimulates infrastructure investment.

450. Section 706's directive to promote advanced telecommunications is not undermined by the unbundling of local circuit switching because such unbundling imposes requirements with respect to the legacy telephone network, and thus does not deter carriers' investment in advanced telecommunications capabilities. Accordingly, we do not believe that section 251(d)(2)'s "at a minimum" language justifies any departure from our impairment findings in the switching context.[1374]

5. DS1 Enterprise Customers

451. We find that the record evidence establishes that there are few barriers to deploying competitive switches to serve customers in the enterprise market at the DS1 capacity and above, and thus no operational or economic impairment on a national basis.[1375]

[1372] *See, e.g.*, AT&T Comments at 65-97; AT&T Willig Decl.; Z-Tel Oct. 7, 2002 Innovation *Ex Parte* Letter at 5; AT&T Willig Stimulating Investment at 1-7, 28-39.

[1373] The studies submitted by the incumbent LECs, such as Verizon Unbundled Switching Study, are overly simplified correlation models or state-to-state comparisons lacking adequate explanation of relevant variables. BOC Shelanski Decl. at 22; AT&T Oct. 15, 2002 *Ex Parte* Letter, Attach. C at 12, 14 (AT&T Pfau Correcting) (asserting that the study supposedly showing how the high level of unbundled loops combined with unbundled local circuit switching equates to low facilities-based competitive LEC access lines simply plots competitive LEC facilities based access lines against competitive LEC unbundled loops combined with unbundled local circuit switching lines but does not include all states).

[1374] Several incumbent LECs express particular opposition to any outcome that would maintain the availability of unbundled loops combined with unbundled local circuit switching. *See, e.g.*, Verizon Comments at 6; SBC Comments at 76. This opposition appears to stem from the incumbent LECs' claim that the TELRIC rates they obtain for UNEs do not, in fact, compensate them for the costs associated with provisioning these UNEs to requesting carriers. *See, e.g.*, Verizon Comments at 32-33; SBC Comments at 34-35; BellSouth Reply at 43, 51 n.118. As explained below, however, we intend to review our TELRIC framework in a future proceeding. *See infra* Part VIII.B.2. To the extent the incumbent LECs' concerns relate not to the proper interpretation of the section 251(d)(2) standards governing access to UNEs, but rather to the section 252(d)(1) UNE pricing standards, those concerns should properly be addressed in that future proceeding rather than in this Order.

[1375] The dissents' claim that, when we voted February 20th, we intended to make only "presumptions" on impairment and that we have now significantly changed the item in making an affirmative finding. *Chairman Powell Statement* at n.42; *Commissioner Abernathy Statement* at 4. This argument completely misses the mark. In both the language we adopted February 20th and in this item, we had exactly the same intent: to make a national finding based on the record evidence but to allow the states to rebut that finding based on a more granular inquiry. In this manner, we intended to treat switching exactly as Chairman Powell proposed and the Commission unanimously voted to treat transport and loops. We previously characterized this approach as a "presumption" because Chairman Powell's proposed draft of the item used the "presumption" terminology in the transport and loops sections to convey that a finding of impairment (or non-impairment) is subject to a more a granular review by the states. The presumption language in the loops and transport sections was subsequently changed, and, (continued….)

Consequently, we establish a national finding that competitors are not impaired with respect to DS1 enterprise customers that are served using loops at the DS1 capacity and above.[1376] DS1 enterprise customers are characterized by relatively intense, often data-centric, demand for telecommunications services sufficient to justify service via high-capacity loops at the DS1 capacity and above. The evidence in the record demonstrates that it becomes viable to aggregate loops at a customer location and provide service at a DS1 capacity interface or higher.[1377] Specifically, if a customer has purchased services from the competitive carrier that require a DS1 or above loop, it is economically feasible to digitize the traffic and aggregate the customer's voice loops at the customer's premises and put them onto a high-capacity circuit.[1378] This obviates the need for hot cuts at the incumbent LEC's central office,[1379] which, as discussed above, is a significant source of impairment. Specifically, the conversion process for enterprise customers generally involves the initiation of service to the competitor's new digital loop while the incumbent's service remains in place.[1380] During migration of an enterprise customer from analog services to a new digital loop, the enterprise customers remain on the incumbent's analog facilities while the new digital loop is installed and service initiated.[1381] Similarly, where enterprise customers are being converted from the digital facilities, the competing carrier installs

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accordingly, we changed the switching language to be consistent. In no sense did we intend to change our approach. The claim that we "made no findings at all" is simply false. Although we used the "presumption" terminology in accord with Chairman Powell's proposed language for transport and loops, we were explicit that our switching determination was based on findings of fact – *i.e.*, the impairments associated with cutting over large volumes of loops, the NRCs associated with cutting over those loops, and the churn rates. Despite any confusion, throughout this process we have consistently endeavored to create a document that reflects the majority's views. Today's item is fully consistent with the positions taken in the negotiations leading to the vote on February 20th, and the majority's views today.

[1376] For purposes of determining whether impairment exists according to our standard, we define DS1 enterprise customers as those customers for which it is economically feasible for a competing carrier to provide voice service with its own switch using a DS1 or above loop. We determine that this includes all customers that are served by the competing carrier using a DS1 or above loop, and all customers meeting the DS0 cutoff described below in paragraph 497. As discussed below, however, we determine that the state commissions are best situated to identify *potential* enterprise customers, *i.e.*, those customers for whom it could be economically feasible to serve using a DS1 or above loop. *See infra* para. 497. Because of the expected difficulties and detailed information needed in conducting this inquiry, we allow the states nine months to make this identification, which would include determining the maximum number of lines that a carrier may obtain from a particular customer before that customer is classified as a enterprise customer. We expect such analysis to be conducted at the same time as the analysis of the mass market. State commissions have discretion to define the relevant markets for purposes of this inquiry, provided they follow the guidelines described here and below. *See infra* Part VI.D.6.a.(ii)(b)(i) (discussing the market definition to be used by states).

[1377] Z-Tel Comments at 52.

[1378] BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 14.

[1379] *See* NewSouth Reply at 27-28; NewSouth Fury Reply Aff. at para. 6.

[1380] NewSouth Fury Reply Aff. at paras. 6, 14.

[1381] *Id*. at para. 14.

and initiates service on a new digital loop in parallel with the customer's existing service.[1382] In each case, the incumbent's service is disconnected only after the competitor's service over a new loop has been initiated.[1383] Thus, enterprise customers avoid potentially lengthy disruption of service due to physical hot cuts, occasionally experiencing an outage of only 10 to 30 seconds for incoming calls as their numbers are updated in the industry databases used to route calls.[1384] As a result, competitive carriers neither incur the costs of hot cuts nor experience the quality degradation associated with the cut over process to serve customers with loops with DS1 capacity and above.[1385] Accordingly, competitive LECs generally face the same opportunities and challenges as incumbents on connecting such facilities to their switches.

452. In addition, the revenue opportunities associated with serving DS1 enterprise customers generally are sufficient to justify the sunk and fixed costs associated with using and installing the switch.[1386] DS1 enterprise customers are typically medium or large business customers with high demand for a variety of sophisticated telecommunications services that use loops with DS1 capacity and above. DS1 enterprise customers purchase extensive local services, resulting in significant revenues to the service provider, allowing a greater opportunity for the competitive LEC to recover any non-recurring costs associated with the "set-up" of the loop and switch facilities necessary to provide services.[1387] DS1 enterprise customers are more receptive to entering into long-term contracts, which likewise gives competing carriers a greater ability to recover non-recurring costs. Moreover, because large business customers generate comparably greater revenues than residential customers, requesting carriers are more willing to tolerate any provisioning difficulties that may be present in the installation process.

453. The record demonstrates that competitive LECs are competing successfully in the provision of switched services, using a collocation network with associated backhaul transport, to medium and large enterprise customers without unbundled local circuit switching.[1388] The characteristics of the enterprise market support use of self-provisioned switching in combination with unbundled loops (or loop facilities) without the imposition of substantial barriers upon the

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[1382] *Id*. at paras. 18-19.

[1383] *Id*. at para. 19.

[1384] *Id*. at paras. 15-17.

[1385] NewSouth Fury Reply Aff. at para. 6; Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Jan. 17, 2003) (AT&T Jan. 17, 2003 *Ex Parte* Letter); BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 14.

[1386] NewSouth Reply at 29-30; NewSouth Fury Reply Aff. at paras. 5-6.

[1387] NewSouth Reply at 30; NewSouth Fury Reply Aff. at para. 6.

[1388] Allegiance, for example, serves several enterprise customers using its own switches. Verizon Reply at 103 (citing Allegiance SEC Form 10-K for the period ending December 31, 2001). In addition, Conversent Communications also "provides local and long distance voice and data service to small and medium sized business customers in second and third tier urban and suburban markets" using its own switch. Conversent Comments at 1-2.

competitive LEC. The record indicates that competitive LECs are serving at least 13 million business lines through self-deployed switches, approximately 89 percent of all UNE-L lines served by competitive switches.[1389] Accordingly, while the enterprise market characteristics do not eliminate all of the cost and operational disadvantages that competitive carriers may face when using their own switches to serve enterprise customers, we find that evidence in the record shows that, unlike for the mass market, the elimination of cut over cost differentials and other operational issues supports a national finding of no impairment.[1390] That is, the record indicates that denial of access to unbundled switching would not impair a competitor's ability to serve the enterprise markets, including all customers which are served by the competitor over loops of DS1 capacity and above.[1391]

454. Although the record shows no impairment on a national basis, we recognize that a geographically specific analysis could possibly demonstrate that competitive carriers are impaired without access to unbundled incumbent LEC local circuit switching for DS1 enterprise customers in a particular market.[1392] As discussed above, while the record shows that cut over cost differentials are eliminated and other operational challenges may be mitigated when competitive carriers use their own switches to serve enterprise customers, the characteristics of enterprise markets do not eliminate all of the cost and operational disadvantages. For example, in a local market with low retail rates, it is possible that difficulties in obtaining collocation space, costs accompanying collocation, high UNE rates for local loops, and backhaul costs could make it uneconomic for competitive LECs to self-deploy switches specifically to serve the enterprise market. In particular, the record suggests that such factors make impairment more likely in rural areas.[1393]

455. While the record in this proceeding does not contain evidence identifying any particular markets where competitive carriers would be impaired without unbundled access to local circuit switching to serve enterprise customers, state commissions are uniquely positioned to evaluate local market conditions and determine whether DS1 enterprise customers should be granted access to unbundled incumbent LEC circuit switching.[1394] To that end, we permit state

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[1389] BOC UNE Fact Report 2002 at II-1; Verizon Unbundled Switching Study at 3.

[1390] *See, e.g.*, Letter from Christopher J. Wright, Counsel for Z-Tel, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2-3 (filed Oct. 10, 2002) (Z-Tel Oct. 10, 2002 *Ex Parte* Letter) (stating that large businesses with intensive bandwidth needs are a different market than the mass market – they will agree to enter into long-term contracts and can tolerate some degree of manual installation).

[1391] *See* Verizon Reply at 103 (citing Allegiance Telecom, Inc. SEC Form 10-K for year ending December 31, 2001, at 30, 34).

[1392] We also note that these costs may only be considered a barrier to entry if they are sufficient to prevent economic entry, and thus they would not be considered "the kinds of costs any new entrant would bear."

[1393] *See, e.g.*, UNE-P Coalition Comments at 51; PACE Dec. 12, 2002 *Ex Parte* Letter.

[1394] Moreover, where we have found no impairment, states may alter that determination only by petitioning this Commission. It is solely where we have found impairment that states may alter the finding without petitioning us (continued….)

commissions to rebut the national finding of no impairment by undertaking a more granular analysis utilizing the economic and operational criteria contained herein. State commissions will have 90 days from the effective date of this Order to petition the Commission to waive the finding of no impairment.[1395] State commissions wishing to do so must make an affirmative finding of impairment showing that carriers providing service at the DS1 capacity and above should be entitled to unbundled access to local circuit switching in a particular market.[1396] State

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first. This further undercuts the dissents' claims that the role we provide for the states is biased in favor of finding impairment.

[1395] Chairman Powell complains that the majority "fails to reach a conclusive finding of no-impairment in competitive business markets." *Chairman Powell Statement* at 14. In fact, we have made a nationwide finding that switching for enterprise customers should not be unbundled, which states can displace only by filing a petition for waiver with this Commission based on explicitly enumerated factors. Chairman Powell's assertion that we should not allow waivers of our determination is difficult to fathom. The Commission's governing rules state that "Any provision of the rules may be waived by the Commission on its own motion or on petition if good cause therefore is shown." 47 C.F.R. § 1.3. Moreover, in sections of the Order proposed by Chairman Powell and adopted unanimously, we explicitly note that our unbundling determinations for transport and high-cap loops can be displaced by states through filing of a waiver with this Commission.

[1396] In voting on February 20th, we noted that the manner in which state commissions could rebut our national finding of impairment for enterprise switches was subject to further analysis regarding the viability of that approach. After completing this further analysis and reviewing concerns raised by the dissents that had not been previously discussed, we decided that allowing state commissions to rebut the national findings through a waiver petition to this Commission was the best way to effectuate its overall intent in the item and provide effective oversight. As the Commission has concluded in other contexts, "[s]ome of those concerns were well thought-out and prompted the majority to rethink its position and further explain its rationale. Those steps improved this Order – and in turn resulted in a higher quality product for the American people. At the end of the day that should be the goal of all the Commissioners." *Joint Statement of Chairman Powell and Commissioner Abernathy on Northpoint*, 17 FCC Rcd at 9807. The waiver process we adopted improved this Order and also responds to some of the dissenters' concerns about oversight. While ideally we would engage in the dialogue at an earlier stage, "continuous improvement of our items is the right thing to do." *See Joint Statement of Chairman Powell and Commissioner Abernathy on Northpoint*, 17 FCC Rcd at 9807. The Commission routinely clarifies its intent and strengthens its orders through "post-adoption edits" before an item's release. *See Joint Statement of Chairman Powell and Commissioner Abernathy on Northpoint*, 17 FCC Rcd at 9807 n.705 ("There is nothing procedurally inappropriate in making changes, substantive or non-substantive, after adoption to further elucidate the rationale for the Commission's decision. Such revisions are permissible when all non-dissenting Commissioners concur in the changes. Here, all of the Commissioners who supported the relevant sections agreed to the post-adoption edits."); Statement of Chairman William E. Kennard, *1998 Biennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996*, MM Docket No. 98-35, Biennial Review Report, 15 FCC Rcd 11058, 11126 n.6 (2000) ("Contrary to the suggestion of dissenting Commissioners, there is nothing procedurally inappropriate in making revisions, substantive or non-substantive, to the biennial review report after adoption in order to further elucidate the rationale for the decision to retain the national ownership rule. Such revisions are permissible when all non-dissenting Commissioners concur in the revisions. Here, all the Commissioners who supported the relevant sections agreed to the post-adoption edits. Post-adoption edits are not uncommon."); Separate Statement of Commissioner Kevin J. Martin, *2002 Biennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996*, Report and Order and Notice of Proposed Rulemaking, MB Docket Nos. 02-277, 03-130, MM Docket Nos. 01-235, 01-317, 00-244, at 2-3 n.1 (rel. July 2, 2003) (enumerating some of the substantive post-adoption edits to that item). Indeed, elsewhere in this item, after initially requiring that incumbent LECs seek state approval before retiring copper loops, the Chairman proposed, and the majority agreed, (continued….)

commissions have discretion to define the relevant markets for purposes of this inquiry, provided they follow the guidelines described here and below.[1397] After the 90-day period, states may wish, pursuant to state-determined procedures, to revisit whether competitive LECs are impaired without access to unbundled local circuit switching to serve enterprise customers due to changes in the specified operational and economic criteria.[1398]

456. *Operational Criteria*. In order to rebut the Commission's finding of no impairment as it relates to operational barriers, the states must examine whether operational factors are impairing competitors, according to our impairment standard discussed above.[1399] In particular, state commissions must consider whether incumbent LEC performance in provisioning loops, difficulties in obtaining collocation space due to lack of space or delays in provisioning by the incumbent LEC, or difficulties in obtaining cross-connects[1400] in an incumbent's wire center, are making entry uneconomic for competitive LECs. We believe, based on the large record in this proceeding, that these factors can raise barriers to entry.[1401] We lack, however, sufficient specific evidence concerning whether and where they will be significant enough to constitute impairment. We therefore ask state commissions to consider evidence, which could include performance metrics and standards for BOCs or other types of evidence for non-BOC incumbent LECs, of whether these factors are impairing entrants in the enterprise market, and whether unbundling will overcome this impairment.

457. *Economic Criteria*. To rebut the Commission's finding that competitive LECs are not impaired by the lack of access to unbundled local circuit switching, the states must find that entry into a particular market is uneconomic in the absence of unbundled local circuit switching. To make this determination, states must weigh competitive LECs' potential revenues from serving enterprise customers in a particular geographic market against the cost of entry into that market. In evaluating competitive LECs' potential revenues, the states should consider all likely revenues to be gained from entering the enterprise market (not necessarily any carrier's individual business plan), including revenues derived from local exchange and data services. The states should also consider the prices entrants are likely to be able to charge, after considering the prevailing retail rates the incumbents charge to the different classes of customers

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to remove this approval requirement. Here in this item, all of the Commissioners who support the relevant section agree to the post-adoption edits, as each has signed the Commission form designated for precisely that purpose.

[1397] *See infra* Part VI.D.6.a.(ii)(b)(i) (discussing the market definition to be used by the states).

[1398] Any subsequent review to rebut the Commission's finding remains subject to the petition process discussed in this paragraph above. The proceedings described in this paragraph shall be completed within six months of the filing of a petition or other pleading submitted in accordance with the prescribed state procedures.

[1399] *See supra* Part V.B.1 (discussing our impairment standard).

[1400] A cross-connect is defined as "[a] connection scheme between cabling runs, subsystems, and equipment using patch cords or jumpers that attach to connecting hardware on each end." NEWTON'S TELECOM DICTIONARY at 191 (18th ed. 2002).

[1401] *See infra* Part VI.D.5.

in the different parts of the state. In determining the cost of entry into a particular geographic market, the states should consider the costs imposed by both operational and economic barriers to entry.

458. The states must consider all relevant factors in determining whether entry is uneconomic in the absence of unbundled access to local circuit switching. For example, even in a market where retail rates would give competitive carriers the opportunity to earn considerable revenues, entry may nonetheless be uneconomic. For example, the potential revenues could be outweighed by a combination of even higher economic and operational costs, such as untimely and unreliable provisioning of loops, transport, or collocation by the incumbent LEC at high non-recurring charges, and significant costs to purchase equipment and backhaul the local traffic to the competitor's switch. However, where competitive LECs have the opportunity to earn revenues that outweigh the costs associated with entry, carriers are not impaired without unbundled access to local circuit switching for DS1 enterprise customers.

6. Mass Market Customers

459. The record demonstrates that customers for mass market services are different from customers in the enterprise market.[1402] The mass market for local services consists primarily of consumers of analog "plain old telephone service" or "POTS" that purchase only a limited number of POTS lines and can only economically be served via analog DS0 loops.[1403] We find on a national basis, that competing carriers are impaired without access to unbundled local circuit switching for mass market customers.[1404] This finding is based on evidence in our record regarding the economic and operational barriers caused by the cut over process.[1405] These

[1402] Mass market customers are residential and very small business customers – customers that do not, unlike larger businesses, require high-bandwidth connectivity at DS1 capacity and above. Z-Tel Comments at 30-31. Mass market customers' accounts tend to be smaller, lower revenue accounts and are often serviced on a month-to-month basis and not pursuant to annual contracts. The record shows that consumers of DS1 capacity and above telecommunications are more willing to sign annual or term commitments. *Id*. at 32.

[1403] Z-Tel Comments at 30.

[1404] As mentioned, the dissenters are simply wrong in claiming that, when we voted on February 20th, we intended to make only "presumptions" on impairment and that we have now significantly changed the item. *See supra* note 1375. In both the language we adopted February 20th and in this item, we had exactly the same intent: to make a national finding based on a more granular inquiry. In this manner, we intended to treat switching the exactly as Chairman Powell proposed and the Commission unanimously voted to treat transport and loops. We previously characterized this approach as a "presumption" because Chairman Powell's proposed draft of the item used the "presumption" terminology in the transport and loops sections to convey that a finding impairment (or nonimpairment) is subject to a more granular review by the states. The presumption language in the loops and transport sections was subsequently changed, and, accordingly, we changed the switching language to be consistent. As we explained, *see supra* note 1375, in no sense did we intend to change our approach.

[1405] Chairman Powell claims that "[t]he Majority finds impairment based solely on the basis of operational impairment" but, he asserts, "it empowers the states to find economic impairment (even after curing the operational concern) based on a laundry list of possible economic disadvantages." *Chairman Powell Statement* at 7. The Chairman misrepresents our analysis. To begin with, we base our impairment finding on "*economic* and operational barriers." *See supra* paras. 459-475. Among other things, for example, we find that high non-recurring per-line (continued….)

barriers include the associated non-recurring costs, the potential for disruption of service to the customer, and our conclusion, as demonstrated by our record, that incumbent LECs appear unable to handle the necessary volume of migrations to support competitive switching in the absence of unbundled switching. These hot cut barriers not only make it uneconomic for competitive LECs to self-deploy switches specifically to serve the mass market, but also hinder competitive carriers' ability to serve mass market customers using switches self-deployed to serve enterprise customers.

460. In this section, we ask state commissions to take specific actions designed to alleviate impairment in markets over which they exercise jurisdiction. Because we find that operational and economic factors associated with the current hot cut process used to transfer a loop from one carrier's switch to another's serve as barriers to competitive entry in the absence of unbundled switching, state commissions must, within nine months from the effective date of this Order, approve and implement a batch cut process that will render the hot cut process more efficient and reduce per-line hot cut costs. In the alternative, if appropriate for any particular geographic market, state commissions must issue detailed findings supporting a conclusion that current hot cut processes do not give rise to impairment in a market and that a batch cut process is therefore unnecessary.

461. We also recognize that a more granular analysis may reveal that a particular market is not subject to impairment in the absence of unbundled local circuit switching. We therefore set forth two triggers that state commissions must apply in determining whether requesting carriers are impaired in a given market. Our triggers are based on our conclusion that actual deployment is the best indicator of whether there is impairment, and accordingly evidence of actual deployment is given substantial weight in our impairment analysis. Thus, we determine that states should examine these triggers first in their analyses.

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charges for connecting a carrier's own switch to an unbundled loop in combination with customer churn may make entry uneconomic. *Id*. Moreover, Chairman Powell's suggestion that we allow states to find impairment on the basis of factors that we did not consider is simply wrong, as we did consider and address all of these factors. We found that "the record evidence indicates that these factors may give rise to impairment in a given market, even setting aside the problems associated with hot cuts." *See supra* para. 476. We did not base our national impairment finding on these factors because "[t]he evidence in the record is not sufficiently detailed to conclude that impairment exists on a national basis due to these factors, as they vary on a geographic basis." *See supra* para. 476 note 1472. It is for that reason that we have asked the states to investigate them. Finally, Chairman Powell's intimation that we have tilted the scales in favor of finding impairment by listing what he considers to be a "laundry list" of factors fundamentally misunderstands the impairment inquiry. *Chairman Powell Statement* at 7. Chairman Powell and the rest of the Commission have all agreed that actual deployment is the best evidence of impairment. The factors that Chairman Powell criticizes here come into play only if our deployment triggers are not met. As such, the factors' purpose is to determine whether the lack of deployment is due to actual impairment or some other reason by inquiring whether entry is in fact uneconomic. In making this determination, Chairman Powell has acknowledged that one must consider all "costs of entry" as well as all potential revenues. *See supra* para. 84. Just as in our analysis of high-capacity loops and transport, which Chairman Powell proposed and the Commission adopted unanimously, this inquiry requires consideration of a number of different factors.

462. *Framework of Analysis.* The analysis we prescribe with regard to mass market switching is as follows. First, where a state determines that there are three or more carriers, unaffiliated with either the incumbent LEC or each other, that are serving mass market customers in a particular market using self-provisioned switches, the state must find "no impairment" in that market. As described below, we recognize that there may be some markets where three or more carriers are serving mass market customers with self-provisioned switches, but where some significant barrier to entry exists such that additional carriers with self-provisioned switches are foreclosed from serving mass market customers. For example, if there is no collocation space available for additional competitive LEC equipment, further competitive entry may be impossible, irrespective of other economic or operational circumstances. Where the self-provisioning trigger has been satisfied and the state commission identifies an exceptional barrier to entry that prevents further entry, the state commission may petition the Commission for a waiver of the application of the trigger, to last until the impairment to deployment identified by the state no longer exists.

463. Second, a state must find no impairment when it determines that there are two or more competitive wholesale suppliers of unbundled local circuit switching, unaffiliated with the incumbent or each other. Where neither of these two triggers is satisfied, we establish a framework that state commissions must apply to determine whether a market *allows* self-provisioning of switching, notwithstanding the absence of three actual independent self-provisioning carriers. In conducting this inquiry, states must consider evidence of actual competitive deployment of local circuit switches, operational barriers to competitive entry, and economic barriers to competitive entry. Where these factors suggest the feasibility of self-provisioning of switching, states may render a "no impairment" finding for the market at issue. In the event a state does not reach such a finding and the triggers are not met for a particular market, we direct states to consider whether, in a given market, requesting carrier's impairment without access to local circuit switching would be cured by a more limited unbundling rule – specifically, "rolling" access to unbundled local circuit switching for a period of 90 days or more. Where such "rolling" access would cure all relevant sources of impairment – for example, by allowing competitive LECs to aggregate customers in preparation for a batch cut over and to avoid certain non-recurring costs associated with end users who might discontinue service during the first few months after becoming customers of the competitive LEC – we direct states to implement such rolling access to unbundled local circuit switching instead of a broader unbundling rule. Finally, we ask the state commissions to conduct continuing reviews of impairment for unbundled switching.

a. Impairment Caused by Incumbent LEC Hot Cut Process

464. Unlike the incumbent LECs, competitive LECs do not own entire exchanges in which the customers' loops are already connected to their switches through a pre-wired connection. Instead, switch-based competitive LECs must gain access to those customers' loop facilities, which predominately, if not exclusively, are provided by the incumbent LEC.[1406]

[1406] Competitors use unbundled dedicated transport to provide the loop extensions that they need to connect their customers with their switches. In contrast, an incumbent LEC can connect its copper loop directly to its switch by (continued….)

Specifically, in order to use its own switch to provide end-user services, the competitor must connect its switch to the incumbent loop (*i.e.*, "last-mile connectivity"). To interconnect with an incumbent LEC or to access an incumbent LEC's UNEs, competitors must be able to directly access the incumbent's facilities with their own equipment. The most practical and efficient places in an incumbent's network where this direct access can occur are those centralized points where individual, subscriber-generated telecommunications traffic is aggregated onto common links for transmitting the traffic through the network or onto other networks. Collocation allows competitors to place their own equipment directly into these centralized points in the incumbent's network.[1407] Competitive LECs must collocate facilities at the incumbent LEC's central offices, and then build additional transport facilities to extend those loops to competitive LEC switches, and route all of their customers' traffic to their own switches.[1408]

465. The physical transfer of a customer's line from the incumbent LEC switch to the competitive LEC switch currently requires a coordinated loop cut over or "hot cut" for each customer's line.[1409] The record shows that hot cut capacity is limited by several factors, such as the labor intensiveness of the process, including substantial incumbent LEC and competitive resources devoted to coordination of the process, the need for highly trained workers to perform the hot cuts, and the practical limitations on how many hot cuts the incumbent LECs can perform without interference or disruption.[1410] Regardless of whether a customer was previously being served by the competitive LEC using unbundled local circuit switching, or by the incumbent

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merely running a jumper wire across its main distribution frame in the central office. *See generally* AT&T Oct. 4, 2002 *Ex Parte* Letter.

[1407] AT&T Comments at 211-12; NewSouth Comments at 40-45; BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 3-4.

[1408] AT&T Reply at 310.

[1409] As discussed above, a hot cut is a largely manual process requiring incumbent LEC technicians to manually disconnect the customer's loop, which was hardwired to the incumbent LEC switch, and physically re-wire it to the competitive LEC switch, while simultaneously reassigning (*i.e.*, porting) the customer's original telephone number from the incumbent LEC switch to the competitive LEC switch. *See generally* BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 7. From the time the technician disconnects the subscribers loop until the competitor re-establishes service, the subscriber is without service. Simultaneously, incumbent LEC and competitor technicians must coordinate to ensure that the subscriber's telephone number is "ported" to the competitor's switch so that inbound calls are properly routed to the requesting carrier's switch. This process necessarily disconnects service to the customer for a brief period of time, as the physical connection between the loop and the incumbent LEC switch is broken and then a new connection with the competitive LEC switch is made. The process of number porting also potentially subjects the customer to some period of time where incoming calls will not be received (*i.e.*, until the number porting process is correctly completed, the customer's number will not correctly route incoming calls to the competitive LEC switch now serving that customer). Some parties contend that hot cuts are practically infeasible in an increasing number of cases that leave requesting carriers with no workable means of obtaining access to unbundled loops. GCI Comments at 8-9, 16. GCI states that where the incumbent LEC has deployed IDLC architecture, it "simply cannot obtain access to the unbundled UNE loop in order to interconnect and direct that traffic to its collocation space." *Id*. at 9.

[1410] Z-Tel Comments at 38.

itself, a hot cut must be performed. The record contains evidence that hot cuts frequently lead to provisioning delays and service outages, and are often priced at rates that prohibit facilities-based competition for the mass market.[1411] The barriers associated with the manual hot cut process are directly associated with incumbent LECs' historical local monopoly, and thus go beyond the burdens universally associated with competitive entry.[1412] Specifically, the incumbent LECs' networks were designed for use in a single carrier, non-competitive environment and, as a result, the incumbent LEC connection between most voice-grade loops and the incumbent LEC switch consists of a pair of wires that is generally only a few feet long and hardwired to the incumbent LEC switch.[1413] Accordingly, for the incumbent, connecting or disconnecting a customer is generally merely a matter of a software change.[1414] In contrast, a competitive carrier must overcome the economic and operational barriers associated with manual hot cuts.[1415] Our finding concerning operational and economic barriers associated with loop access reflects these significant differences between how the incumbent LEC provides service and how competitive LECs provide service using their own or third-party switches.

466. Competitive carriers contend that the current hot cut process prevents an orderly and seamless migration, at least with respect to mass market customers.[1416] Requesting carriers must wait for coordinated cut overs before providing service with their own switch, delay that prevents the competitive LEC from providing service in a way that mass market customers have come to expect. Service disruptions also will influence customer perceptions of competitive LECs' ability to provide quality service, and thus affect competitive LECs' ability to attract customers. Competitive LECs, like ATX, provide ample testimony in the record reporting on their efforts to serve mass market locations using the hot cut process, claiming that they were forced to cease marketing and discontinue plans to provide switch-based services to mass market customers because they experienced difficulties with service implementation associated with the hot cut process to connect voice-grade loops to their switches.[1417] Similarly, AT&T contends that it lost over one-half of its UNE-L customers before the customers were even cut over due to the impact the hot cut process had on customers.[1418] AT&T also states that it experienced so many problems with coordinated hot cuts used to connect loops to its switches that it "was forced to

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[1411] AT&T Comments at 212, 214-17; New York Department Comments at 2-4; BTI Comments at 11; UNE-P Coalition Comments at 49-50; WorldCom Comments at 86-87; Z-Tel Comments at 38-47.

[1412] AT&T Reply at 311; *see also* BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 4, 7-8, 10-11.

[1413] *See* BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 7.

[1414] *See id.*

[1415] *See id.*

[1416] Bridgecom Feb. 5, 2003 *Ex Parte* Letter at 9.

[1417] *See* ATX Jan. 22, 2003 *Ex Parte* Letter at 3-5 (stating that the problems with hot cuts were so bad that it had to create special processes to handle hot cuts on a "special project basis" with Ameritech).

[1418] AT&T Comments at 214-17, 219; AT&T Brenner Decl. at paras. 34-42.

stop marketing its switch-based service to all customer locations that did not have enough traffic to warrant the use of a DS-1 or higher capacity loop."[1419]

467. Most importantly, mass market customers generally demand reliable, easy-to-operate service and trouble-free installation.[1420] WorldCom asserts that, before the competitive LEC has established an ongoing business relationship with its new customer, the customer is unlikely to tolerate any disruption of service caused by a manual hot cut – no matter how minor – during customer acquisition.[1421] Moreover, competition is meant to benefit consumers, and not create obstacles for them. The record shows that customers experiencing service disruptions generally blame their provider, even if the problem is caused by the incumbent.[1422] Indeed, Z-Tel states that one glitch or delay in the cut over process for a mass market customer may be enough to convince the customer to go back to the incumbent.[1423] In contrast, when a competitive LEC provisions a higher capacity service, such as DS1 capacity and above, to an enterprise customer, there generally is no "hot cut" of the customer.[1424] In addition, enterprise customers are often more willing to pay for redundancy to protect against disruption in the cut over process. Accordingly, we find the evidence in the record persuasive that the hot cut problem would be particularly great for transferring existing mass market customers in a cost-effective and operationally seamless manner.

468. Competitive carriers also argue that the manual hot cut process is not suitable for mass market customers because the incumbents cannot handle the necessary volume of transactions to support competitive switching in the absence of unbundled local circuit switching and that the non-recurring costs associated with hot cuts are prohibitively expensive.[1425] In

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[1419] AT&T Comments at 207; *see also* UNE-P Coalition Comments at 47-48; Letter from Christopher J. Wright, Counsel for Z-Tel, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Dec. 16, 2002) (Z-Tel Dec. 16, 2002 *Ex Parte* Letter); Letter from Robert A. Curtis, President, and Thomas M. Koutsky, Vice President – Law and Public Policy, Z-Tel, to Michael K. Powell *et al.*, FCC, *in* Letter from Christopher J. Wright, Counsel for Z-Tel, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-2 (filed Feb. 6, 2003) (Z-Tel Feb. 6, 2003 Powell *Ex Parte* Letter) (noting generally that manual hot cuts are inadequate to handle the scale, quality, and efficiency needed if switching were eliminated).

[1420] WorldCom Reply at 141; Z-Tel Comments at 32-33.

[1421] WorldCom Reply at 141.

[1422] AT&T Comments at 19-20; Z-Tel Comments at 47; Navigator Comments at 4.

[1423] Z-Tel Comments at 32, 36, 47.

[1424] *See* NewSouth Reply at 27-28; NewSouth Fury Reply Aff. at para. 6.

[1425] *See* Letter from Ruth Milkman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 3 (filed Dec. 5, 2002) (WorldCom Dec. 5, 2002 *Ex Parte* Letter); Letter from Donna Sorgi, Vice President, Federal Advocacy, WorldCom, to William F. Maher, Chief, Wireline Competition Bureau, FCC, at 5, *in* Letter from Gil M. Strobel, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 8, 2003) (WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter) (stating that the hot cut process permits a few thousand transactions per month, not the million needed to bring competition to the mass market); Letter from Ruth E. Holder, Legal Specialist for WorldCom, to Marlene (continued….)

deciding whether competitors are impaired by incumbent LEC provisioning processes, we must necessarily make a predictive judgment concerning this systemic capability to handle anticipated future hot cut volumes, which (absent access to unbundled local circuit switching) would be greater than volumes that have been experienced in the past.[1426] Competitive carriers have shown that, although they have used hot cuts to serve certain small segments of the market, no competitive carrier relies on hot cuts to offer service to significant numbers of customers served by voice-grade loops. Having reviewed the record evidence, we find that it is unlikely that incumbent LECs will be able to provision hot cuts in sufficient volumes absent unbundled local circuit switching in all markets. For instance, AT&T has presented evidence in the record that, despite years of effort to serve low-volume business locations with a UNE-L strategy that relied on hot cuts, hot cuts could not be provided in the volumes required to support AT&T's customer demand, leading to cancellation of orders for AT&T's competitive service offering.[1427] GCI, a carrier operating in Alaska, attempted to rely in part on hot cuts to provide service to the mass market, but it claimed that it had "continual problems with provisioning unbundled loops, especially for small business loops which require a hot cut."[1428] GCI states that its business plan required the incumbent LEC to perform approximately 500 hot cuts per day, but that the incumbent LEC at its peak has averaged only approximately 100 per day.[1429] McLeod states that in the former Ameritech region, SBC has performed at most 35 hot cuts per central office per day.[1430] Moreover, the evidence in the record shows that some incumbent LECs expressly limit the number of lines that can be cut over in a given day.[1431] Specifically, Broadview states that Verizon limits the number of lines that can be cut over in a given day to 125 for the entire region.[1432]

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H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Feb. 12, 2003) (WorldCom Feb. 12, 2003 *Ex Parte* Letter) (showing hot cut NRCs and how they vary across the country).

[1426] Market data confirm that, by the end of 2002, competing carriers served an estimated ten million residential and small business lines via unbundled loops combined with unbundled local circuit switching. PACE Jan. 14, 2003 *Ex Parte* Letter at 2.

[1427] AT&T Comments at 219-20; AT&T Brenner Decl. paras. 39-42.

[1428] GCI Comments at 8.

[1429] *Id*. These problems so adversely affected its business plans that GCI determined that it would "pa[y] the cost" for the incumbent LEC "to hire 25 additional workers to increase hot cut volume, which cost GCI over $3 million per year." *Id.* at 34; *id.*, Declaration of Frederick W. Hitz, III at para. 14.

[1430] Letter from Stephen C. Gray, President, McLeodUSA, to William F. Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147, 02-33 at 12 (filed Dec. 17, 2002) (McLeodUSA Dec. 17, 2002 *Ex Parte* Letter).

[1431] *See id*. (noting in general that "RBOCs typically impose limitations on the number of conversions from UNE-P to stand-alone unbundled loops that [can] be performed in a given CO in a given day," and notes that SBC is "most restrictive" with a limit of 25-35 orders per central office per day in the SBC Midwest region).

[1432] Letter from Rebecca M. Sommi, Vice President, Operations Support, Broadview, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Oct. 16, 2002) (Broadview Oct. 16, 2002 *Ex Parte*

(continued….)

469. While incumbent LECs reference the Commission's determination in multiple section 271 orders that BOCs provision hot cuts at a level of quality that offers efficient competitors a meaningful opportunity to compete,[1433] and argue that performance data show that current hot cut performance is satisfactory, even as the number of hot cuts has increased,[1434] we find that the number of hot cuts performed by BOCs in connection with the section 271 process is not comparable to the number that incumbent LECs would need to perform if unbundled switching were not available for all customer locations served with voice-grade loops.[1435] In the

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Letter). *But see* Letter from W. Scott Randolph, Director – Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 6 (dated Dec. 23, 2002) (Verizon Dec. 23, 2002 Hot Cut *Ex Parte* Letter) (claiming that Verizon's current internal guidelines contemplate as many as 150 hot cuts per central office). Verizon's filing, however, provides no evidence that the company has actually been able to perform hot cuts at such volumes consistently over a long-term period, as would be required upon any transition away from unbundled switching. Moreover, while Verizon claims that its guidelines could be adjusted to permit more than 150 hot cuts per day if necessary, Verizon provides no evidence that its current processes are sufficient to meet that increased demand.

[1433] *See, e.g.*, *SWBT Texas 271 Order*, 15 FCC Rcd at 18490-93, paras. 268-73.

[1434] *See* Verizon Dec. 23, 2002 Hot Cut *Ex Parte* Letter at 3. Verizon states that between 2000 and 2001, its hot cut volume increased by 50% in Massachusetts (14,114 to 21,089), 40% in Pennsylvania (22,184 to 31,592), and more than 200% in New Jersey (3,918 to 11,845). *Id.* at 3. Verizon claims that its on-time performance in those states was 98.41%, 97.56%, and 95.91%, respectively. *Id.* Qwest also contends that its hot cut performance is excellent. Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 5 (filed Jan. 7, 2003) (Qwest Jan. 7, 2003 *Ex Parte* Letter); *see also* Letter from Lawrence E. Sarjeant, Vice President Law and General Counsel, USTA, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 3 (filed Dec. 11, 2002) (USTA Dec. 11, 2002 *Ex Parte* Letter) (stating that "USTA incumbent LEC members are able to perform hot cuts in volumes and timeframes that, in the context of their particular circumstances, support the finding that the removal of switching from the UNE list will not impair the ability of competitive LECs to provide local exchange and exchange access services"). Verizon states that its performance data show that it "routinely meets 95 percent or more of its installation appointments on time." Verizon Comments at 102.

[1435] Based entirely on the Commission's prior findings in section 271 orders, Chairman Powell and Commissioner Abernathy claim that incumbent LEC hot cut processes cannot be a source of impairment. *See Chairman Powell Statement* at 4-5; *Commissioner Abernathy Statement* at 5-6. To begin with, the dissenters completely ignore the volume of evidence in the record of this proceeding that hot cuts create significant barriers to providing service, offering no response or explanation whatsoever. Moreover, contrary to their contentions, the Commission's prior findings in section 271 orders do not support a finding here that competitive carriers would not be impaired if they were required to rely on the hot cut process to serve all mass market customers. At most, these orders found that the specific companies at issue "will be able to handle reasonably foreseeable demand volumes." *Commissioner Abernathy Statement* at 6 (quoting *Bell Atlantic New York 271 Order*, 15 FCC Rcd at 3993, para. 89). Leaving aside the fact that these orders applied only to specific BOCs in specific states and by no means make any findings with respect to BOCs or incumbent LECs generally, these orders examined the adequacy of hot cuts at a time when competitive LECs were principally using unbundled local circuit switching to compete for mass market customers. Indeed, the BOCs frequently relied on evidence of customers being served by unbundled loops combined with unbundled local circuit switching to support their Track A findings of sufficient facilities-based competition. *See, e.g.*, *BellSouth Georgia/Louisiana 271 Order*, 17 FCC Rcd at 9026-27, para. 15; *SBC California 271 Order*, 17 FCC Rcd at 25656, para 12; *Application of Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions) and Verizon Global*
(continued….)

states where section 271 authorization has been granted, unbundled local circuit switching has been available and, accordingly, the BOCs' hot cut performance has generally been limited.[1436] Moreover, we find that the issue is not how well the process works currently with limited hot cut volumes, rather the issue identified by the record identified is an inherent limitation in the number of manual cut overs that can be performed, which poses a barrier to entry that is likely to make entry into a market uneconomic.[1437] Our finding is also corroborated by the comments of

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Networks Inc. for Authorization to Provide In-Region, InterLATA Services in Massachusetts, CC Docket No. 01-9, Memorandum Opinion and Order, 16 FCC Rcd 8988, 8990, para. 224 (2001) (*Verizon Massachusetts 271 Order*); *Verizon Global Networks Inc., and Verizon Select Services Inc. for Authorization to Provide In-Region, InterLATA Services in Vermont*, CC Docket No. 02-7, Memorandum Opinion and Order, 17 FCC Rcd 7625, 7630-31, para. 11 (2002) (*Verizon Vermont 271 Order*); *Application by Qwest Communications International, Inc. for Authorization to Provide In-Region, InterLATA Services in the States of Colorado, Idaho, Iowa, Montana, Nebraska, North Dakota ,Utah, Washington and Wyoming*, WC Docket No. 02-314, Memorandum Opinion and Order, 17 FCC Rcd 26303, 26317, para. 29 (2002) (*Qwest 9-State 271 Order*); *see also* Letter from Brad E. Mutschelknaus, Counsel for Broadview *et al.*, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Jan. 21, 2003) ("Notably, all four of the RBOCs have relied, in one or more States, upon the presence of UNE-P, to advance their bids for Section 271 authority."). And Chairman Powell and Commissioner Abernathy repeatedly voted to approve orders characterizing such deployment as "facilities-based competition" for purposes of meeting section 271's requirement of the "presence of a facilities-based competitor." *See, e.g.*, *Qwest 9-State 271 Order*, 17 FCC Rcd at 26303, para. 29 (stating that Qwest satisfies Track A, section 271(c)(1)(a)); *SBC California 271 Order*, 17 FCC Rcd at 25657, para. 15 (stating that SBC satisfies Track A, section 271(c)(1)(a)); *Verizon Vermont 271 Order*, 17 FCC Rcd at 7630-31, para. 11 (stating that Verizon satisfies Track A, section 271(c)(1)(a)). Furthermore, even in those states where there was not significant unbundled switching-based competition (*see Commissioner Abernathy Statement* at 6-7 n.12) when the Commission granted the section 271 applications for those states, the availability of unbundled loops combined with unbundled switching as a mode of entry informed the Commission's determination of reasonably foreseeable demand volumes. Here, we must consider the adequacy of current hot cut practices for handling the volumes that would be expected if competitive LECs were denied unbundled access to unbundled local circuit switching – something that was by no means "reasonably foreseeable" in the context of the section 271 orders. The section 271 orders thus tell us very little about a BOC's ability to provision large batches of cut overs in a timely and reliable manner under these circumstances. In Broadview's experience, for example, Verizon's performance measures do not apply to bulk migrations on a project-managed basis. Broadview Jan. 15, 2003 *Ex Parte* Letter at 4; *see also Application by Verizon New Jersey Inc., Bell Atlantic Communications, Inc.(d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a/ Verizon Enterprise Solutions), Verizon Global Networks Inc., and Verizon Select Services Inc., for Authorization to Provide In-Region, InterLATA Services in New Jersey*, CC Docket No. 02-67, Memorandum Opinion and Order, 17 FCC Rcd 12275, 12326, para. 109 n.309 (2002). Accordingly, the Commission's section 271 holdings by no means find that incumbent LEC performance is now adequate to meet the demands of UNE-L-based competition. Finally, our decision does not overlook the possibility that if in some markets the incumbents' ability to perform batch hot cuts does not pose impairment, the states may simply make findings to this effect.

[1436] BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 9-10.

[1437] The dissents assert that the majority makes unwarranted assumptions about incumbent LECs' ability to handle increased volumes in the absence of unbundled loops combined with unbundled local circuit switching. *Chairman Powell Statement* at 5; *Commissioner Abernathy Statement* at 5. It appears that they would support a finding of no impairment based on affidavits and declarations submitted by incumbent LECs attesting to their willingness and ability to handle any requested volume of hot cuts. *Commissioner Abernathy Statement* at 5. We find, however, incumbent LECs' promises of future hot cut performance insufficient to support a Commission finding that the hot cut process does not impair the ability of a requesting carrier to provide the service it seeks to offer without at least some sort of unbundled circuit switching. While incumbent LECs state that they have the capacity to meet any (continued….)

state commissions, most notably the New York Department, which concluded that "Verizon would need to dramatically increase the number of hot cut orders per month if UNE-P was terminated and CLEC customers were switched."[1438] The New York Department concluded that "it would take Verizon over 11 years to switch all the existing UNE-P customers to UNE-L."[1439] Indeed, the New York Department is currently examining ways to "migrat[e] large volumes of customers from Verizon's switches to CLECs' switches more efficiently."[1440] For those reasons, the Commission's prior findings in section 271 orders do not support a finding here that competitive carriers would not be impaired if they were required to rely on the hot cut process to serve all mass market customers.

470. Competitive carriers also argue that the cost of hot cuts, exacerbated by churn, creates a cost disparity that makes it uneconomic to serve mass market customers.[1441] Competitors seeking to use their own switches must incur the costs associated with a hot cut, including both the charges assessed by the incumbent LEC and their own costs of managing and participating in the hot cut process.[1442] The hot cut cost assessed by the incumbent LEC is a non-recurring per-line charge on competitive carriers that connect their own switches to unbundled loops.[1443] The record shows that the cost of connecting each customer to the competitive LEC's switch makes it difficult to compete.[1444] Although hot cut costs vary among incumbent LECs, we

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reasonable foreseeable increase in demand for stand-alone loops that might result from increased competitive LEC reliance on self-provisioned switching, there is little other evidence in the record to show that the incumbent LECs could efficiently and seamlessly perform hot cuts on a going-forward basis for competitors who submit large volumes of orders to switch residential subscribers. As described above, moreover, we ascribe more weight to actual evidence of competitive entry serving the relevant market than to predictive claims of incumbents' ability to handle hypothetical volumes – and the incumbents have been unable to offer compelling evidence that they have actually provisioned hot cuts in the requisite quantity. Moreover, where incumbent LECs have undergone comprehensive testing of their loop provisioning processes, state commissions have found difficulties regarding hot cut performance. Indeed, in its initial comments in this proceeding, the New York Department recognized the hot cut process as one of the "major issues that hamper the development of facilities based competition," and concluded that "[u]ntil hot cuts can be performed in much greater volumes, competitive LECs' lack of access to the UNE-P will materially diminish their ability to provide local service." New York Department Comments at 3.

[1438] New York Department Comments at 4 n.18.

[1439] *Id*.

[1440] *Id*. at 3.

[1441] *See, e.g.*, WorldCom Comments at 33 ("[A]fter a comprehensive evaluation, WorldCom concluded that it did not make economic sense to spend additional capital necessary to attempt . . . to enter the mass market through end-to-end facilities-based service.").

[1442] BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 4-5.

[1443] *See, e.g.*, ASCENT Comments at 36; Letter from Kimberly Scardino, Senior Counsel, WorldCom, to Michelle Carey, Chief, Competition Policy Division, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-2 (filed Nov. 15, 2002) (WorldCom Nov. 15, 2002 Customer Churn *Ex Parte* Letter).

[1444] *See*, *e.g.*, AT&T Comments at 216; ASCENT Comments at 36; GCI Comments at 36; WorldCom Comments at 86; ASCENT Reply at 7. If the competitive LEC uses unbundled incumbent LEC loops, this "loop access" cost (continued….)

find on a national level that that these costs contribute to a significant barrier to entry.[1445] WorldCom submitted hot cut non-recurring costs (NRCs) for several states, with an average non-recurring charge of approximately $51, with several states having NRCs in excess of $100.[1446] According to WorldCom, in New York, the hot cut NRC will soon rise to $185 (from $35) for each line served.[1447] Z-Tel's analysis of the New York market indicates that even if the switch itself, collocation, and maintenance were free, with a non-recurring hot cut charge of $185 per line, it would not be economic to deploy a switch to serve mass market customers in New York.[1448] In addition to the high non-recurring charges imposed by the incumbent LECs, the evidence in the record shows that hot cuts also require significant internal resources and expenditures which must be borne by the competitive LEC. Thus, the record evidence indicates that the non-recurring costs associated with cutting over large volumes of loops would likely be prohibitively expensive for a competitive carrier seeking to provide service without the use of unbundled local circuit switching.

471. Moreover, the evidence in the record demonstrates that there is a significant amount of churn, or movement, among mass market customers. Mass market customers move freely from carrier to carrier when they desire, and have come to expect the ability to change local service providers in a seamless and rapid manner.[1449] We find that this movement, or churn, happens most frequently in the first few months after the customer switches to a new carrier and is often driven by "winback" activities.[1450] WorldCom, for example, states that it loses 50

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includes the nonrecurring costs of moving the customer's line to the competitive LEC switch and establishing a collocation arrangement, and the recurring costs of maintaining collocation and transport to connect the customer's POTS line to the competitive LEC's switch. Because competitive LECs generally do not collocate a switch in every incumbent LEC end office but rather serve a number of collocation arrangements from a single switch, competitive LECs generally connect their switches to unbundled loops via transport facilities.

[1445] *See, e.g.*, ASCENT Comments at 36 (noting "repeated attempts by incumbent LECs to dramatically increase hot cut charges . . . confirm that hot cut costs will continue to be a highly adverse factor"); ASCENT Reply at 7; AT&T Reply at 321 (stating that "the current charges for hot cuts in many states forecloses the use of UNE-L, even in narrow situations"); BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 5 n.12.

[1446] WorldCom Feb. 12, 2003 *Ex Parte* Letter at 2-3; BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 5 n.12.

[1447] WorldCom Feb. 12, 2003 *Ex Parte* Letter at 2-3.

[1448] Z-Tel Oct. 10, 2002 *Ex Parte* Letter at 2. Considering only the non-recurring cost of hot cuts, Talk America estimates that it would incur costs of $840,000 just to convert its existing customer base in New York served by unbundled loops combined with unbundled local circuit switching to stand-alone loops based on the promotional rate of $35 per hot cut adopted by the New York Department. Talk America Reply at 25.

[1449] *See*, *e.g.*, UNE-P Coalition Comments at 46 (noting that mass market customers are not used to and will not tolerate service degradation as a cost of moving from one carrier to another); Z-Tel Comments at 46-47 (stating that mass market customers expect to be able to switch their local carriers seamlessly as they can switch long distance carriers).

[1450] WorldCom Nov. 15, 2002 Customer Churn *Ex Parte* Letter at 1-2.

percent of its new local customers within the first three months of signing up for service.[1451] Z-Tel estimates that at least four percent of its lines turn over each month.[1452] Because of this churn, Z-Tel asserts that carriers in a competitive market cannot expect to keep any particular customer for more than 18-24 months.[1453] The evidence in the record demonstrates that customer churn exacerbates the operational and economic barriers to serving mass market customers. For example, competitive LECs incur non-recurring costs upon establishing an end user's service, but generally recover those costs over time, spreading them out over monthly customer bills; high churn rates thus often deprive competitive carriers the opportunity fully to recover those outlays. The record demonstrates that the current level of churn for carriers providing service to the mass market has significant negative revenue effects on the ability of competitive carriers to recover the high costs associated with manual hot cuts.[1454] Finally, higher volumes of customer turnover necessitate higher volumes of hot cuts than the record demonstrates incumbent carriers are currently able to provide.

472. In making our national finding of impairment due to the incumbent LEC hot cut process, we do not rely on the results of the cost studies and business case analyses some commenters submitted concerning the economic feasibility of competitive entry into the mass market without access to unbundled switching. Specifically, BellSouth and SBC presented studies in support of their claim that economic entry by competitive LECs was possible using UNE-L without unbundled switching, at least in wire centers with 5,000 lines or more.[1455] AT&T and WorldCom claimed that competitive LECs were impaired without unbundled switching based on studies estimating the cost disadvantage relative to the incumbent LEC experienced by competitive LECs serving customers using UNE-L, although WorldCom's study suggested that

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[1451] *Id*. WorldCom estimates that, for customers that choose its "Neighborhood" bundled local and long distance products, on average, it loses 25% of its customers within three months, 50% within six months, and 4% to 6% per month after the six-month threshold. *Id.* Although we do not rely on any individual competitors churn data, we agree that the evidence in the record establishes that churn in the mass market affects the economics of serving this market.

[1452] Z-Tel Comments at 31.

[1453] *Id*. at 33.

[1454] Competitive LECs contend that, given the high degree of churn and relatively low monthly revenues for mass market customers, it is difficult to recoup this non-recurring charge over the entire customer base. WorldCom Nov. 15, 2002 Customer Churn *Ex Parte* Letter at 2 (stating that the high non-recurring costs associated with the hot cut process are almost impossible to recover for customers that switch to another carrier within the first six months). Z-Tel states that even if a competitive LEC received revenues of $30 per month, it would take the competitor more than six months to recover the hot cut costs, a long period of time for a market with significant churn. Z-Tel Comments at 35-36. To ameliorate these cost disadvantages, WorldCom states that UNE-L would be more feasible in many areas if competitive carriers could obtain volume discounts for hot cuts, lower transport rates, and lower collocation charges, or alternatives (other than collocation) for accessing the loop, such as EELs. *See* WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter at 6.

[1455] *See generally* Letter from Glenn T. Reynolds, Vice President – Federal Regulatory, BellSouth, to Marlene H. Dortch, Secretary, FCC (filed Jan. 30, 2003) (BellSouth Jan. 30, 2003 *Ex Parte* Letter); SBC Jan. 14, 2003 *Ex Parte* Letter.

it may be possible to alleviate the impairment in the largest wire centers.[1456] These studies are discussed in detail below.[1457] We find that technical shortcomings in each of these studies preclude us from relying on their results to evaluate impairment at the national level.[1458] These shortcomings include: (1) failure to use the proper framework when determining impairment;[1459] (2) insufficient granularity in their analyses;[1460] (3) failure to consider the typical revenues gained from serving the average customer in the market; and (4) inadequate support for the parameters they employed. Each study's particular inputs and assumptions heavily influenced its results, and there was significant disagreement in the record about the proper inputs and assumptions.[1461] Although we are not able to rely on the results of these studies with respect to our national finding of impairment, the studies do highlight various factors which should be evaluated by the states on a market-specific basis as part of their impairment analyses, as discussed in greater detail below.[1462]

473. Our national finding of impairment is based on the combined effect of all aspects of the hot cut process on competitors' ability to serve mass market voice customers. Thus, while many of the factors discussed above may vary from location to location, such as hot cut NRCs,[1463] we find the overall impact of the current hot cut process raises competitors' costs, lowers their quality of service, and delays the provisioning of service, thereby preventing them from serving the mass market in the large majority of locations. However, observed variations in these factors suggest that requesting carriers may not be impaired without access to unbundled switching in some particular instances, but evidence in the record is not sufficiently detailed to identify these specific markets. Therefore, as described in detail below, we ask the states to identify where competing carriers are not impaired without unbundled switching, pursuant to the triggers and analysis of competitors' potential to deploy.

[1456] *See generally* AT&T Jan. 17, 2003 *Ex Parte* Letter; WorldCom Jan. 8, 2003 *Ex Parte* Letter.

[1457] *See infra* Part VI.D.6.a.(i).

[1458] *See supra* para. 178 (discussing the shortcomings of the studies).

[1459] The AT&T and WorldCom studies do not consider the potential revenues available to an entrant.

[1460] All of the studies rely on averages, and fail to provide geographically disaggregated results.

[1461] For example, the commenters disagree about what revenues to use when calculating net profits, and use different estimates regarding the size of the wire center and where it is located, the competing carrier's predicted market share, the cost of inputs such as transport and collocation, the estimated revenue, and whether the competing carrier had existing facilities. *See* AT&T Jan. 17, 2003 *Ex Parte* Letter at 3; WorldCom Jan. 8, 2003 *Ex Parte* Letter at Attach. A, 3-6; SBC Jan. 14, 2003 *Ex Parte* Letter at 3; BellSouth Jan. 30, 2003 *Ex Parte* Letter at 2-8, Attach. at 4, 7-9.

[1462] *See infra* Part VI.D.6.a.(i) (discussing other factors which potentially could cause impairment, but for which the present record does not warrant a national finding of impairment).

[1463] According to one commenter, non-recurring charges for hot cuts can vary from $2 (in Minnesota) to $117 (in Oregon). WorldCom Feb. 12, 2003 *Ex Parte* Letter at 2.

474. The record evidence strongly suggests that the hot cut process could be improved if cut overs were done on a bulk basis, such that the timing and volume of the cut over is better managed.[1464] We expect that such improvements would result in some reduction of the non-recurring costs that, according to competitive carriers, prevent entry. Indeed, at this time, we find such improvements are likely to be essential to overcome the operational impairment that competitors face in serving mass market customers.[1465] Without such improvement, the record shows that carriers are likely to be unable to economically serve a market characterized by low margins. Incumbent LECs argue that Frame Due Time (FDT) and project managed approaches offer sufficient efficiency. With FDT cut overs, both the incumbent and the competing carrier perform necessary work at pre-arranged times, with no communication required at the time of the hot cut. Project managed cut overs involve the conversion of a number of lines at one time, pursuant to provisioning requirements and intervals negotiated by the incumbent and the competitive LEC. We find that these approaches are not sufficiently developed or widespread enough to adequately address the impairment created by the loop cut over process. The evidence in the record demonstrates that the carriers that have used project-managed cut overs have used them only for business customers,[1466] and only after acquiring the customer through a means that offered the use of incumbent LEC loops and switches in combination.[1467] Further, competitive carriers rarely know in advance the precise locations of new mass market customers, and the facilities used to serve them, hindering the use of project managed processes, which must be negotiated well in advance of customer conversion.[1468] In addition, the FDT and project managed approaches do not offer rates (*i.e.*, volume discounts) that reflect efficiencies to these

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[1464] Verizon states that it can efficiently manage the conversion of the anticipated hot cut volumes associated with the embedded base on a negotiated project managed basis, as it has done with carriers like AT&T and Broadview. *See* Verizon Dec. 23, 2002 Hot Cut *Ex Parte* Letter at 2, 5-6. We note, however, that there is no completion interval associated with such conversions, and that Verizon therefore is not subject to penalties for inadequate performance.

[1465] We recognize that any such "operational" impairment would result in a disparity between an incumbent's cost to serve a customer and a new entrant's cost to serve a customer. We will treat any such cost disparity separately from other economic issues because it is tied closely to the hot cut process, which is uniquely within the control of the incumbent LEC.

[1466] *See* Letter from Rebecca Sommi, Vice President – Operations, Broadview Networks *et al.*, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 6 (filed Jan. 15, 2003) (Broadview *et al.* Jan. 15, 2003 *Ex Parte* Letter) (asserting that the project managed hot cuts had been primarily used with small business customers as opposed to mass market customers); BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 11 (asserting that the project managed hot cuts were mostly used for business customers). Broadview states that the Commission should accord no credibility to Verizon's claim that it can handle hot cuts on a project-managed basis as well as it handles hot cuts on an order-by-order basis, given the fact that Verizon has failed to provide the data that indicate that the quality of the hot cut is not impacted when managed as a project. Broadview *et al.* Jan. 15, 2003 *Ex Parte* Letter at 6.

[1467] AT&T Brenner Decl. at 44-55; Broadview *et al.* Jan. 15, 2003 *Ex Parte* Letter at 6; BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 11.

[1468] BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 11.

approaches. Finally, because there generally are no performance intervals associated with these approaches, incumbent LECs are not subject to financial penalties for inadequate performance.

475. Accordingly, we conclude that the operational and economic barriers arising from the hot cut process create an insurmountable disadvantage to carriers seeking to serve the mass market, demonstrating that competitive carriers are impaired without local circuit switching as a UNE. Although we find that current conditions at the national level demonstrate that competitive LECs are impaired without unbundled switching for mass market customers based on the costs and delays associated with hot cuts, we take affirmative steps to reduce this impairment and promote an environment suitable for increased facilities-based competition. As described below, we find that the present impairment can be mitigated by an improved loop provisioning process.

(i) Other Operational and Economic Impairment

476. Above we have concluded that economic and operational barriers associated with the hot cut process justify a national finding that requesting carriers are impaired without access to unbundled local circuit switching. We have, however, asked states to identify markets in which requesting carriers are not impaired without access to unbundled local circuit switching, pursuant to the guidance set forth below.[1469] In doing so, we ask the states to examine evidence of sources of impairment other than hot cuts, in the manner we describe below, as the record shows that requesting carriers may be impaired without access to unbundled incumbent LEC local circuit switching because of operational and economic factors other than those associated with hot cuts. Commenters have alleged that these barriers – which include poor incumbent LEC performance in fulfilling unbundling, collocation, and other statutory obligations, difficulties in performing customer migrations between competitive LECs, difficulties in performing collocation cross-connects between competing carriers,[1470] and the significant cost disadvantages competitive carriers face in obtaining access to the loop and backhauling the circuit to their own switches[1471] – can be sufficient to hinder or prevent entry even if impairment caused by hot cuts were fully resolved. Although these factors *do not* form the basis of our national impairment finding,[1472] we recognize that the record evidence indicates that these factors may give rise to impairment in a given market, even setting aside the problems associated with hot cuts, and that they therefore will be relevant to state commissions' determinations with respect to unbundled local circuit switching. We describe these potential barriers here.

[1469] State commissions can alternatively make a finding that there is impairment based on other economic and operational factors in the manner explained below.

[1470] *See, e.g.*, BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter.

[1471] *See* UNE-P Coalition Comments at 44-46; WorldCom Jan. 8, 2003 *Ex Parte* Letter at 3 (noting that switching has high fixed costs that must be spread over a large number of customers if a competitive carrier is to achieve cost efficiencies similar to those enjoyed by the incumbent LEC).

[1472] The evidence in the record is not sufficiently detailed to conclude that impairment exists on a national basis due to these factors, as they vary on a geographic basis.

(a) Operational Factors

477. *Collocation*. We find that the absence of sufficient collocation space in the incumbent LEC central office or offices might in some markets render competitive entry impossible and thus result in impairment. The record evidence indicates that in some markets, competitive LECs may face a lack of sufficient collocation space in the incumbent LEC's central office or offices. For competitive LECs that rely on the incumbent LEC's transmission facilities but not on unbundled local circuit switching, collocation of facilities in the incumbent's central office is essential to the provision of local service. The incumbent's failure to provide adequate collocation space may render competitive entry uneconomic. Thus, as set forth below, when states evaluate the prospects for self-provisioned switching in a given market, we direct them to consider whether a lack of sufficient collocation space gives rise to impairment in that market.

478. *Incumbent LEC Provisioning of Competitive LEC-to-Competitive LEC Cross – Connects.* We further find that an incumbent LEC's failure to provide cross-connections[1473] between the facilities of two competitive LECs on a timely basis can also result in impairment. Competition in the absence of unbundled local circuit switching requires seamless and timely migration not only to and from the incumbent's facilities, but also to and from the facilities of other competitive carriers.[1474] Such interconnection requires that the incumbent LEC place cross connections between the competitive carriers' facilities in its central office on a timely basis. The incumbent's failure to do so will tend to delay competitors' entry, and thus to increase competitors' costs. We conclude that in some cases, such failure can give rise to impairment in the absence of unbundled local circuit switching.

(b) Economic Factors

479. Competing carriers contend that many economic factors also prevent them from using UNE-L and thus impair their ability to serve the mass market without access to unbundled switching. Competing carriers maintain that even using the most efficient network architecture available for entry using the UNE-L strategy, they are at a significant cost disadvantage vis-à-vis the incumbent in all areas. In addition to the hot cut-related costs discussed above, competitive LECs cite the cost of backhauling the voice circuit to their switch from the customer's end office.[1475] They allege that these hot cut and backhaul costs are not faced by the incumbent, and

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[1473] Cross-connection is the "attachment of one wire to another usually by anchoring each wire to a connecting block and then placing a third wire between them so that an electrical connection is made." *Id.*; *see also* AT&T Brenner Decl. at para. 21; Z-Tel Comments, Declaration of Peggy Rubino at para. 12.

[1474] *See Collocation Remand Order*, 16 FCC Rcd at 15436, 15464-78, paras. 2, 55-84 (concluding that "while an incumbent LEC need not allow collocators to install and maintain cross-connects between different carriers' collocated equipment, an incumbent LEC itself must provide these cross-connects upon reasonable request"); *Local Competition Order*, 11 FCC Rcd at 15801, para. 594 ("We believe that it serves the public interest and is consistent with the policy goals of section 251 to require that incumbents permit two or more collocators to interconnect their networks at the incumbent's premises."); *UNE Remand Order*, 15 FCC Rcd at 3777-78, paras. 178-79.

[1475] BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 3-4; Letter from Joan Marsh, Director, Federal Regulatory Affairs, AT&T, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2-5 (filed Nov. 26, (continued….)

thus put competing carriers at a significant relative disadvantage.[1476] The costs faced only by competitive LECs are, they claim, especially burdensome given the high churn rates associated with serving mass market customers that they face in the first few months of service. Incumbent LECs respond that the marketplace evidence showing deployment of switches for both business and residential customers, and an analysis of the costs and revenues of entry using the UNE-L strategy, demonstrate that competitors are able to enter the voice mass market economically, and that economic factors do not justify a national impairment finding. As described above, we believe that economic and operational barriers associated with the hot cut process do justify such a national finding, but authorize the state commissions to find otherwise where there is no impairment. In this section, we discuss economic factors that, based on our record, may be relevant to the states' determinations.

480. The need to backhaul the circuit derives from the use of a switch located in a location relatively far from the end user's premises, which effectively requires competitors to deploy much longer loops than the incumbent.[1477] Competing carriers assert that the costs of backhaul, which include the costs of collocating in the customer's serving wire center,[1478] installing equipment in the wire center in order to digitize, aggregate, and transmit the voice traffic, and paying the incumbent to transport the traffic to the competitor's switch, put them at a significant cost disadvantage to the incumbent.[1479] Since many of these costs are fixed, competitors argue that these costs must be spread over a large number of customers if a competitive carrier is to achieve cost efficiencies similar to those enjoyed by the incumbent LEC.[1480] Thus in smaller wire centers, where the competitors' customer base is likely to be

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2002) (AT&T Nov. 26, 2002 *Ex Parte* Letter); AT&T Oct. 4, 2002 *Ex Parte* Letter at 8-9, 21; Letter from Joan Marsh, Director, Federal Regulatory Affairs, AT&T, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 6-11 (filed Nov. 12, 2002) (AT&T Nov. 12, 2002 *Ex Parte* Letter); WorldCom Oct. 12, 2002 *Ex Parte* Letter, Attach. at 34-38; WorldCom Bryant Reply Decl. at paras. 22-24.

[1476] *See, e.g.*, ASCENT Comments at 36; ASCENT Reply at 7; WorldCom Nov. 15, 2002 Customer Churn *Ex Parte* Letter; BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 4; CompTel/PACE Oct. 31, 2002 *Ex Parte* Letter at 2-4. The current system of hot cuts involves a constant charge per line, such that there are no benefits from handling larger volumes. This may change with the use of a batch cut over system, however, if volume discounts are provided to competitors.

[1477] BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 3; AT&T Oct. 4, 2002 *Ex Parte* Letter at 8.

[1478] On average, for example, NewSouth estimates that it incurs costs totaling approximately $500,000 over the first 3 years at each collocation site. NewSouth Reply at 25-26; NewSouth Fury Reply Aff. at para. 4. According to NewSouth, these costs include expenses associated with building the collocation space, recurring charges for rent and power, and the costs of purchasing and installing the equipment in the collocation space. NewSouth Reply at 26; Fury Reply Aff. at para. 4.

[1479] BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 3-4; AT&T Nov. 26, 2002 *Ex Parte* Letter at 2-5; AT&T Oct. 4, 2002 *Comparing ILEC and CLEC Local Network Architectures Ex Parte* at 8-9, 21; AT&T Nov. 12, 2002 *Ex Parte* Letter, Attach. at 6-11; WorldCom Oct. 12, 2002 *Ex Parte* Letter, Attach. at 34-38; WorldCom Bryant Reply Decl. at paras. 22-24.

[1480] WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter at 3-4.

smaller and they are unable to take advantage of scale economies, the cost disadvantage due to backhaul is much larger.[1481]

481. In support of their arguments, several parties have submitted detailed cost studies and business case analyses concerning whether entry into the mass market is economically feasible without access to the incumbent's switch.[1482] The studies submitted by AT&T[1483] and WorldCom[1484] examine only the costs a competing carrier would incur that would not be incurred by the incumbent to determine whether a competitive LEC utilizing UNE-L would suffer a cost disadvantage relative to the incumbent.[1485] AT&T submitted two studies, one of which found that competitors suffer from a cost disadvantage of at least $8 per line in larger wire centers, and

[1481] BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 4-6; Letter from Access Integrated Networks *et al.*, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3-6 (filed Dec. 11, 2002) (Access Integrated Networks *et al.* Dec. 11, 2002 *Ex Parte* Letter). For example, WorldCom finds that the average monthly cost of collocation, transport, hot cut, and collocated equipment assuming that it serves 7% of the local service market and has no physical network to begin with, is $11.40 per line served in incumbent end offices with switches larger than 25,000 lines, and $49.92 in incumbent end offices with switches under 5,000 lines. WorldCom Comments at Appendix, Table 1. AT&T examined the costs attributable to hot cuts and backhaul that are not faced by the incumbent. In the first study it found that for a model competitor, the cost disadvantage for a 20% market share is $9.53 per line served in a typical incumbent end office of 15,000 lines and $8.12 per line in a wire center of 100,000 lines. AT&T Jan. 17, 2003 *Ex Parte* Letter at 2-3. The second study examined the cost of serving customers in every existing incumbent wire center for a model competitor, assuming that collocation space and backhaul are being used for other purposes as well as for serving analog loops. The study showed that to serve all incumbent wire centers with at least 5,000 lines, a competitor with 5% market share will suffer a cost impairment per line of $4.72 for collocation and digitization/concentration equipment costs, $0.84 for backhaul transport, and $2.44 for hot cuts, with a cost offset of $0.60 because the competitor is able to use all digital lines, for a net cost disadvantage of $7.41. If the competitor has a 20% market share in each end office, the net cost disadvantage falls to $6.24, taking into account the $0.60 cost offset. AT&T Jan. 17, 2003 *Ex Parte* Letter at 3-4 & n.9.

[1482] *See generally* AT&T Jan. 17, 2003 *Ex Parte* Letter; BellSouth Jan. 30, 2003 *Ex Parte* Letter; BellSouth Jan. 30, 2003 *Ex Parte* Letter; Letter from James C. Smith, Senior Vice President, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 14, 2003) (SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter); WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter.

[1483] AT&T Jan. 17, 2003 *Ex Parte* Letter.

[1484] WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter.

[1485] In addition, Birch and PACE submitted a joint analysis of the costs of market entry. *See* Letter from Genevieve Morelli, Counsel for PACE, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 4, 6 (filed Dec. 9, 2002) (PACE *et al.* Dec. 9, 2002 *Ex Parte* Letter). Although not a full cost study, this analysis purported to show that it was uneconomic for competing carriers to serve DS0 customers via either existing enterprise switches or alternative approaches such as the use of EELs or incumbent LEC multiplexers. *Id*. Granite also submitted an analysis of its projected costs to enter a market using its own switch. *See* Letter from William B. Wilhelm, Jr. and Patrick J. Donovan, Counsel for Granite, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-2 & Attach. (filed Dec. 16, 2002) (Granite Dec. 16, 2002 *Ex Parte* Letter). This analysis suggests that, to enter the Boston local market, a competing carrier using its own switch would incur costs of $12 million during the first year. *Id*., Attach. at 3. Based on this analysis, Granite argues that migration from service using unbundled incumbent LEC local circuit switching to UNE-L is not economically feasible. *Id*. at 1-2.

from a greater cost disadvantage in smaller incumbent end offices.[1486] AT&T argues that this cost disparity means that competitors are impaired without access to the incumbent's switching. WorldCom's study purports to show that, assuming a market share of seven percent, WorldCom suffers from a cost disadvantage of at least $10 per line, in wire centers where it has its own collocation, transport and nearby switch, and that this disadvantage rises to $21.59 per line in wire centers where it lacks facilities and collocation. WorldCom further argues that in central offices with fewer than 25,000 residential lines, the cost of UNE-L service will constitute an insurmountable barrier to entry and competition, even if there are significant reductions in incumbent LEC charges.[1487] WorldCom also claims that in central offices serving 25,000 or more residential lines, competitive LECs that achieve a reasonable (*e.g.*, seven percent) market share can economically migrate customers served by unbundled local circuit switching to their own switches, provided that operational and economic barriers have already been substantially reduced or removed by state commissions.[1488]

482. The studies presented by SBC and BellSouth examine whether economic entry is possible, taking into consideration the revenue opportunities available and the typical costs of utilizing a UNE-L strategy. The incumbents claim that competitive LECs have successfully

[1486] In the first study, AT&T found that for a model competitor, the minimum cost disadvantage to a competing carrier is $8.12 per line, assuming a 20% market share in a wire center of 100,000 lines. The cost disadvantage was larger for smaller wire centers and lower market shares. For a typical incumbent end office of 15,000 lines, the total net impairment was found to equal $9.53. AT&T Jan. 17, 2003 *Ex Parte* Letter at 2-3. The second study examined the costs of serving customers in every existing incumbent wire center for a model competitor, assuming that collocation space and backhaul were being used for other purposes as well as serving analog loops. The study showed that to serve all incumbent wire centers with at least 5,000 lines, a competitor with 5% market share will suffer a cost impairment per line of $4.72 for collocation and digitization/concentration equipment costs, $0.84 for backhaul, and $2.44 for hot cuts, with a cost offset of $0.60 because the competitor would be able to use all digital lines, for a net cost disadvantage of $7.41. If the competitor had a 20% market share in each end office, the cost disadvantage would fall to $6.24, taking into account the $0.60 cost offset. *Id*. at 3-4 and n.9.

[1487] WorldCom examined the additional costs (in the major categories of collocation, digitization and concentration, transport, switching, OSS, and hot cuts) incurred in serving residential customers in BOC territories using WorldCom switches, based on WorldCom's existing network. WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter. BOC central offices were classified into three groups: offices where WorldCom already has collocation, on-net transport, and nearby switching (case 1); offices where WorldCom has a switch in the LATA but no collocation or transport (case 2); and offices with no WorldCom collocation, switching or transport (case 3). Estimates of the cost disadvantage were broken down by case, size of wire center, WorldCom's assumed market share, and whether WorldCom uses UNEs or special access for transport. WorldCom claimed that, assuming a 7% market share, on average WorldCom would be at a 56% ($10.03), 178% ($17.92), and 301% ($25.84) cost disadvantage using UNE-L relative to the BOCs' unbundled loop and circuit switching combination cost (excluding the cost of the loop for both) for cases 1, 2, and 3, respectively. WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter at 2-3, Attach. A at 6-7 and Appendix Table 1. We note that most of the additional costs were due to the costs of collocation and of the equipment needed for backhaul. For example, for case 3 with 7% market share, the digitization, concentration, and switching equipment and OSS cost $6.70 and collocation $11.08, while transport was $1.31 and hot cut charge was $2.50, for a total cost of $21.59. MICRA Jan. 8 Study at 3-6 and App. Table 1.

[1488] *See* WorldCom Jan. 8, 2003 Switching *Ex Parte Letter* at 7; Letter from A. Richard Metzger, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 23, 2003) (WorldCom Jan. 23, 2003 Unbundled Switching *Ex Parte Letter*).

served the business market using self-provisioned switches, and that they could use these switches to serve the mass market as well, thus taking advantage of economies of scope.[1489] They note, too, that competitive LECs are free to serve only high-margin customers, rather than being required, as are the incumbents, to provide underpriced service to rural and/or residential consumers.[1490] Moreover, incumbent LECs contend that switches deployed by competitive LECs may be able to serve larger geographic areas than switches deployed by the incumbent LEC, thereby reducing the per-line fixed cost of purchasing circuit switching capability and allowing requesting carriers to create their own switching efficiencies.[1491] Based on the prices competitors have charged to high-revenue mass market customers, and the likely scale economies entrants could achieve using a UNE-L strategy with collocated transmission equipment, incumbent LECs argue that competitors could economically enter and serve the mass market using their own centrally located switches.[1492] Specifically, SBC and BellSouth claim that competitive LECs can earn a positive margin providing facilities-based residential service in wire centers with 5,000 or more lines.[1493] SBC further asserts that any losses in the wire centers of under 5,000 lines would be more than offset by the profits a competitive LEC will accrue from serving wire centers of 5,000 lines or more. Thus, SBC argues, a competitor could economically serve all wire centers.[1494]

[1489] BOC UNE Fact Report 2002 at II-10-11.

[1490] *See* Verizon Reply at 42-43; SBC Reply at 2, 26; BellSouth NERA Reply Decl. at viii.

[1491] *See* BellSouth Comments at 79-80 (citing BOC UNE Fact Report 2002 at II).

[1492] SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter.

[1493] *See* SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter at 2; BellSouth Jan. 30, 2003 *Ex Parte* Letter. In its study, SBC assumes that MCI had deployed switches to serve residential customers in wire centers with 5,000 or more lines (which, according to SBC, accounts for 57.7% of SBC wire centers in suburban and rural areas). In California, Michigan, and Texas, the SBC study determines that MCI would be able to cover its UNE-L provisioning costs if MCI set its retail prices (for residential customers) at $40-$60 per line and had a market share of at least 5% in each wire center with more than 5,000 lines. SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter at 3. SBC's model compares the costs of a UNE-L arrangement to the residential revenue opportunities available to competitors. *See* Letter from Jay Bennett, Executive Director – Federal Regulatory, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 4 (filed Jan. 24, 2003) (SBC Jan. 24, 2003 *Ex Parte* Letter). Specifically, SBC concludes that competitive LECs winning 5% to 10% of access lines in wire centers of 5,000 access lines or more can profitably serve residential customers using their own switches. *Id.*

BellSouth examines whether a competitor with a 5% market share could profitably serve customers in wire centers of various sizes, grouped into the following categories: greater than 25,000 lines, 15,000 to 25,000 lines, 5,000-15,000 lines, and under 5,000 lines. The study relies on the cost estimates supplied by WorldCom, to which BellSouth adds the cost of an average UNE loop. *See generally* WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter. Under each of the three scenarios presented, which varies according to the estimates of collocation costs and retail revenues available, BellSouth's study determines that competitors could profitably serve the groups of wire centers with greater than 5,000 lines, and would lose money only for wire centers of less than 5,000 lines. BellSouth Jan. 30, 2003 *Ex Parte* Letter at 7-9.

[1494] SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter at 3-4 ("The critical issue is not whether CLECs can serve every wire center profitably, but whether they can viably serve a particular *market*. Because wire centers with (continued….)

483. We find that these studies fail to provide sufficient evidence to form a basis for making a national finding of no impairment, or a finding of impairment on the basis of non-hot cut factors alone. These studies either failed to adopt the proper framework for determining impairment, were insufficiently granular, or failed to provide sufficient support for the parameters they employed. We observe that the results of these studies were very sensitive to the inputs used and the assumptions employed. The studies' cost estimates depend on the competitor's predicted market share in each incumbent end office and the size of the end office, as well as on the cost of various UNEs and equipment, some of which were disputed.[1495] The cost estimates were also sensitive to whether or not the competing carrier was assumed already to have installed facilities, such as collocation, transmission equipment and backhaul, a switch, and/or their own transport network, for the purpose of providing other services – for example, to serve the medium and large enterprise market.[1496] The studies failed to provide sufficient support for many of these parameters, and often failed to take into account geographic variations in these parameters. While providing significant evidence that competitors operate at a cost disadvantage compared to the incumbent, the studies presented by WorldCom and AT&T also did not adopt the proper framework, because they failed to consider all revenue opportunities associated with entry. These studies were therefore unable to determine when entry would be uneconomic. The incumbent LEC studies also used incorrect revenues, failing to use the likely revenues to be obtained from the typical customer. Moreover, all of the studies relied on averages, either national or regional, for some of their revenue and cost parameters, despite the fact that a granular analysis must wherever possible account for market-specific factors. Accordingly, based on the foregoing, the studies provide insufficient evidence either for or against a finding of impairment.

484. However, we are persuaded that other economic factors, in addition to the economic and operational barriers associated with the current hot cut process that we have already identified, may make entry uneconomic without access to the incumbent's switch. If

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fewer than 5,000 lines account for a minority of all subscriber lines, notwithstanding that they represent almost half (42.3%) of SBC's wire centers, its is reasonable to assume that any losses a CLEC incurs in those wire centers will be more than offset by profits earned in larger wire centers in those same markets.")

[1495] Besides the total number of lines in each incumbent end office and the competitor's market share, other input parameters that affect the calculation included competitor capital costs; depreciation rates; maintenance costs; customer churn rates; collocation space preparation costs and monthly rental fees; digital loop carrier equipment costs, capacities and degree of concentration; UNE transport and special access charges; competitor switch termination costs; and hot cut costs. AT&T Jan. 17, 2003 *Ex Parte* Letter at 2.

[1496] Thus, a competitor may have already set up collocation and transport (using the incumbent's transport network) for a particular end office, and installed its own switch, in order to serve business customers in that end office. Some competing carriers also have established extensive fiber transport networks in metropolitan areas. Use of these facilities would potentially reduce or eliminate the costs of collocation, transmission equipment, backhaul, and switching. AT&T Jan. 17, 2003 *Ex Parte* Letter at 3; WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter, Attach. A at 3-6; SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter at 3. In these cases, the cost of these facilities would have already been recovered by the revenues recovered in connection with these other services, and thus the carriers would be taking advantage of the scope economies available from the facilities' other uses.

nothing else, the evidence provided to us demonstrates that whether entry will be economic depends critically on the values of certain factors affecting a competing carrier's likely costs and revenues,[1497] and that these factors vary significantly among locations and types of customers.[1498] It is quite possible that carriers can economically enter with their own facilities in low cost, high revenue locations, but not in high cost, low revenue locations.[1499] Although we lack sufficient evidence in the record to determine the accuracy of the inputs used to generate their results, we observe that all of the studies mentioned – including the BOC studies – suggest that it would be uneconomic for a competing carrier to serve customers in smaller wire centers. All the studies found that in such wire centers, entry would be much more expensive for the competitive LEC than for the incumbent, or simply would be uneconomic. WorldCom found that, for customers for which it lacks facilities, its cost disadvantage rises from an average of $11.40 per line for wire centers of over 25,000 lines, to $49.92 for wire centers of under 5,000 lines.[1500] AT&T's study shows that, assuming a market share of seven percent, a competitor's cost disadvantage rises from $8.78 for a wire center of 100,000 lines to $71.73 for a wire center of 2,000 lines.[1501] Even the studies by the incumbent LECs, SBC and BellSouth, found that entry would be uneconomic for wire centers of under 5,000 lines.[1502] BellSouth found that for wire centers of under 5,000 lines,[1503] a competitor would likely experience a net loss of $1.93 per line assuming

[1497] According to the standard set forth above, our analysis must take into consideration the full range of revenues that are likely to be obtained by an entrant providing voice and related services, and the costs likely to be incurred. All factors affecting a competing carrier's likely revenues and costs must be examined to determine if they affect its ability to enter a market economically. Because economic entry depends on whether the sum total of all likely revenue sources exceeds the sum total of all likely costs of serving the market, any factor that limits or lowers the potential revenues available to a competing carrier, or raises the cost of serving a set of customers, is a potential barrier to entry. It is only by evaluating all the factors together that we may determine whether the likely revenues from entry will exceed the likely costs. Therefore, no factor should be examined in isolation.

[1498] To utilize a UNE-L strategy, which is the most likely network architecture a new competing carrier would use to serve a mass market voice customer in the absence of unbundled switching, a competing carrier would have to incur costs for the loop, backhaul, collocation space, digitizing and aggregating equipment in the customer's wire center, a switch, interconnection, transport, and the transfer of the customer to its switch using a hot cut, as well as internal administrative costs, the cost of capital, and other costs. Likely revenues depend on the prevailing retail rate and other revenues to be gained from selling local service, including those associated with access charges and vertical features. Also important is whether a competing carrier can sell other products in the region or wire center, which might generate sufficient revenues to help justify expenditures on collocation, backhaul, and a switch.

[1499] Entry is more likely to be economic in locations served by larger wire centers with greater line density, and in areas with low UNE loop rates, high retail rates relative to cost, high subscription rates for vertical features, large numbers of business customers, low UNE rates, and high retail rates. This list does not necessarily include all possible factors that may vary.

[1500] WorldCom Jan. 8, 2003 *Ex Parte* Letter at 2-3, Attach. A at 6-7 and App. Table 1, Case 3.

[1501] AT&T Jan. 17, 2003 *Ex Parte* Letter, Attach. 1 (using 7% market share and switch sizes of 100,000 and 2,000 lines used as inputs).

[1502] SBC admits that competitive LECs cannot earn a profit serving customers in wire centers of under 5,000 lines, but provides no analysis of the likely per-line losses. SBC Jan. 14, 2003 *Ex Parte* Letter.

[1503] The average size of these wire centers is 1,968 lines. BellSouth Jan. 30, 2003 *Ex Parte* Letter at 8.

BellSouth's average retail local revenues.[1504] However, as discussed above, there was significant disagreement concerning whether entry would be economic for larger wire centers.[1505]

485. All of these studies, including those provided by the BOCs, strongly support the need for a more granular analysis of impairment. We have insufficient evidence in the record, however, to conduct this granular analysis. Such an analysis would require complete information about UNE rates, retail rates, other revenue opportunities, wire center sizes, equipment costs, and other overhead and marketing costs. While some of this information was submitted to us, or is available to us from other sources, the available data do not sufficiently facilitate a granular inquiry into precisely where entry is economic. That market-specific data is needed is indicated by the significant variation in the costs and revenues an efficient entrant is likely to face. For example, costs appear to vary significantly among locations and types of customers.[1506] The recurring and non-recurring charges for critical UNE inputs such as collocation, loops, and transport often vary substantially between states.[1507] Within a state UNE loop rates can vary tremendously among rate zones.[1508] Parties also agree that the average cost per customer for collocation and equipment varies according to the number of customers served in a wire center, which is likely to depend on the size of the wire center and the likely market share of an efficient competitor.[1509] Some costs also vary according to the total size of the market served.[1510] The revenue estimates, which depend on customers' predicted expenditures on local voice service, were particularly controversial, and appear to have had a significant impact on the results.[1511] Retail rates can vary between states, by the type of customer, and within the state.[1512]

[1504] BellSouth Jan. 30, 2003 *Ex Parte* Letter at 8.

[1505] *See supra* Part VI.D.4.a.

[1506] *See supra* note 1498.

[1507] *See supra* note 1301.

[1508] Most states have adopted three rate zones, which is the minimum required by the Commission. *See Local Competition Order*, 11 FCC Rcd at 15882-83, para. 765. Some states have adopted four zones.

[1509] *See supra* Part VI.D.6.a.(i).

[1510] AT&T Jan. 17, 2003 *Ex Parte* Letter at 2-3, 7-8 (discussing collocation space costs, which relate to the number of customers served, and backhaul costs, which relate to the distance between the customers' premises and the competitive LEC's switch); WorldCom Jan. 8, 2003 Switching *Ex Parte Letter*, Attach. at 7 ("Economies of scale are critical to the level and structure of costs incurred by the CLECs.").

[1511] There is significant disagreement concerning what revenues to use in calculating net profits. AT&T, WorldCom, and Z-Tel argue that retail rates should not be relied upon, and that instead we should examine the cost disparity the competitor suffers using UNE-L relative to the incumbent. AT&T Jan. 17, 2003 *Ex Parte* Letter at 3; WorldCom Jan. 8, 2003 Switching *Ex Parte Letter* at Attach. A, 3-6. SBC and BellSouth argue that we should examine whether entry is economic using typical retail revenues. SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter at 3. In its study SBC used the typical retail revenue charged by WorldCom for its nationwide offering of combined local and long distance service, called The Neighborhood. *Id*. BellSouth suggests using the incumbent's average retail per-line local revenues, or the price of the incumbent's retail local offerings as the basis for determining competitor's revenues. BellSouth Jan. 30, 2003 *Ex Parte* Letter at 2-8.

Other revenues from mass market customers,[1513] and additional revenue opportunities from other types of customers,[1514] may also vary between and within states. Therefore, we expect that the states will consider the economic factors discussed here on a market-by-market basis and will determine whether it is appropriate to find "no impairment" in any particular market. This approach is consistent with our standard, which requires a determination of impairment on a granular basis, and with the dictates of *USTA*.[1515]

(ii) State Actions and Determinations

486. In this section, we ask state commissions to take certain actions designed to alleviate impairment in the markets over which they exercise jurisdiction. We also set forth a detailed process by which states may perform analysis on a more granular basis, and may identify where competing carriers are not impaired without access to unbundled switching.

(a) Incumbent LEC Batch Cut Processes

487. We have found that a seamless, low-cost batch cut process for switching mass market customers from one carrier to another is necessary, at a minimum, for carriers to compete effectively in the mass market.[1516] We conclude that the loop access barriers contained in the

(Continued from previous page)

[1512] *See supra* note 1303.

[1513] Revenues associated with related services purchased by mass market customers, such as vertical features, are not included in residential rates, and may vary among the states and within a state. Revenues can also vary according to the state Subscriber Line Charge (SLC) and the state and federal access charges that can be applied. FCC Reference Book at 1; *MAG Plan Order*, 16 FCC Rcd at 19636-37, 19669, paras. 47, 131. Many state commissions report setting intrastate access charges above cost. GAO Report on Universal Service at 18.

[1514] Additional revenue opportunities are likely to be greatest in areas with large numbers of enterprises, especially if some of those enterprises are heavy users of telecommunications services.

[1515] *USTA*, 290 F.3d at 422-26.

[1516] Commissioner Abernathy emphasizes that despite the availability of a managed hot cut process in some states, carriers with their own switches have been increasing their reliance on unbundled switching. *See Commissioner Abernathy Statement* at 5 n.9. However, the record evidence demonstrates that competitive LECs have been forced to abandon plans to provide switch-based services to mass market customers because of the difficulties associated with the current hot cut process. *See supra* para. 466. Moreover, Commissioner Abernathy overlooks the fact that current market conditions warrant the availability of unbundling at a minimum, to transition to competitive switch deployment. *See* WorldCom Reply at 155. More importantly, Commissioner Abernathy fails to recognize that the record evidence indicates that incumbent LECs are not well-equipped to handle hot cut volumes even with the existence of a procedure to manage bulk migrations on a project-managed basis. Indeed, in New York, where Verizon has worked with carriers such as Broadview and AT&T to handle bulk migrations on a project-managed basis, there continue to be quality issues associated with hot cuts. Broadview Jan. 15, 2003 *Ex Parte* Letter at 6. This fact is illustrated by an order issued by the New York Department confirming that although the New York hot cut process is "working" and is "well refined . . . at least at current volumes," "an efficient bulk-hot-cut process and rate is critical to the development of facilities-based competition," and thus instituted a proceeding to address that problem. *See* BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 9 n.26 (citing Order Instituting Proceeding, *Proceeding on Motion of the Commission to Examine the Process, and Related Costs of Performing Loop Migrations on a More Streamlined (e.g., Bulk) Basis*, Case 02-C-1425 (Nov. 22, 2002)).

record may be mitigated through the creation of a batch cut process by spreading loop migration costs among a large number of lines, decreasing per-line cut over costs.[1517]

488. State commissions must approve, within nine months of the effective date of this Order, a batch cut migration process to be implemented by incumbent LECs that will address the costs and timeliness of the hot cut process. Alternatively, state commissions must make detailed findings explaining why such a process is not necessary in a particular market, as described below. We find that state regulators are closest to the facts particular to the provisioning issues applicable to their respective markets, and are in the best position to judge whether the incumbent LEC has indeed developed an efficient loop migration process. There can be no doubt that state commissions possess the competence to implement a cost-effective and fast process for provisioning unbundled local loops. State commissions possess the requisite expertise to apply Commission-prescribed standards, and they routinely utilize the processes and procedures – including discovery, sworn testimony, and cross examination on the record – that are essential to reasoned fact-finding. Should a state commission fail to approve a batch cut migration process or provide a detailed explanation why such a process is not necessary within nine months of this Order's effective date, an aggrieved party will be permitted to initiate a proceeding with this Commission.[1518]

489. As an initial matter, state commissions should adopt a batch cut over "increment" for migrating customers served by unbundled loops combined with unbundled local circuit switching to unbundled stand-alone loops. In other words, states should decide the appropriate volume of loops that should be included in the "batch." In conjunction with incumbent LECs and competitive LECs, states should also approve specific processes to be employed when performing a batch cut. The processes adopted will necessarily vary based on the relevant incumbent's particular network design and cut over practices. Generally, however, we expect these processes to result in efficiencies associated with performing tasks once for multiple lines that would otherwise have been performed on a line-by-line basis. For example, pursuant to the processes in place in at least some states, the incumbent LEC currently will pre-wire circuits on the central office frame, verify the presence of dial tone, and communicate with competitive LECs regarding problems encountered on a line-by-line basis.[1519] Under a batch cut process, these activities might be undertaken simultaneously for all lines affected by a given batch order. In addition to developing a cost-effective hot cut process, state commissions should evaluate

[1517] In theory, electronic loop provisioning might one day obviate the need for a hot cut when migrating a loop from one carrier's switch to another's. *See, e.g.*, AT&T Comments, Attach. C, Declaration of Irwin Gerzberg, at paras. 6, 18-19, 25-28; Z-Tel Reply at 53. As discussed below, however, the record in this proceeding does not support a determination that electronic provisioning is currently feasible.

[1518] *See supra* Part V.E.2.a (discussing the role of the states).

[1519] *See, e.g.*, *Application by Verizon New Jersey, Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), Verizon Global Networks Inc., and Verizon Select Services Inc., for Authorization To Provide In-Region, InterLATA Service in New Jersey*, Supplemental Declaration of Patrick A. Garzillo and Marsha S. Prosini at Attach. 2, WC Docket No. 02-67 (filed Mar. 26, 2002) (describing Verizon's hot cut process in New York and New Jersey).

whether the incumbent LEC is capable of migrating batch cutovers of unbundled loops combined with unbundled local circuit switching to unbundled stand-alone loops for any requesting carrier in a timely manner. Specifically, state commissions may require that incumbent LECs comply with an average completion interval metric, including any further disaggregation of existing loop performance metrics (*i.e.*, quality or maintenance and repair metrics), for provisioning high volumes of loops. Finally, if they have not done so already, state commissions should adopt TELRIC rates for the batch cut activities they approve. These rates should reflect the efficiencies associated with batched migration of loops to a competitive LEC's switch, either through a reduced per-line rate or through volume discounts.

490. If a state should conclude that the absence of a batch cut migration process is not causing impairment for a particular market, however, that conclusion will render the creation of such a process unnecessary. For example, in a small, rural wire center, where there is not a significant volume of customer migrations, the absence of a batch cut process may not cause impairment.[1520] In such cases, the state commission may decline to institute a batch cut process, so long as it instead issues detailed findings regarding the volume of UNE-L migrations that could be expected if competitive LECs were no longer entitled to unbundled local circuit switching, the ability of the incumbent to meet that demand in a timely and efficient manner using the existing hot cut process, and the non-recurring costs associated with the hot cut process. If a state commission determines that these findings demonstrate that existing hot cut practices would be adequate even in the absence of unbundled local circuit switching, and that the costs of such processes will not deter entry by competitive LECs, it may conclude that a batch cut process is not necessary. Only such detailed findings, however, will serve as an adequate substitute for the development of a batch cut migration process. We emphasize, moreover, that a state's decision not to develop a batch cut process will not relieve the state commission of its obligation to conduct the analysis set forth below in assessing whether requesting carriers are actually not impaired without access to unbundled switching in any given market.

491. *Other Issues*. We note that AT&T and WorldCom propose other mechanisms intended to mitigate the disruptions and other practical difficulties inherent in the current loop infrastructure.[1521] First, AT&T argues that unbundled switching for voice-grade loops is essential until incumbent LECs offer an electronic loop provisioning (ELP) method of transferring large volumes of local customers in the mass market from one carrier to another that it describes as being analogous to the existing process used to change a customer's long distance provider and

[1520] *See* BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 7 (noting that Commission has found current hot cut processes adequate for the relatively small volumes under consideration in section 271 proceedings).

[1521] *See* AT&T Comments at 63; *see also* Letter from Kimberly Scardino, Senior Counsel, WorldCom, to Michelle Carey, Chief, Competition Policy Division, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1 (filed Nov. 13, 2002) (WorldCom Nov. 13, 2002 DS0 EELs *Ex Parte* Letter).

as eliminating the need for physical hot cuts.[1522] We agree with AT&T that it is easier for a competitive LEC to manage the hot cut process when migrating large numbers of lines served by unbundled loops combined with unbundled local circuit switching to stand-alone loops than in individual hot cut situations, because the conversions can be project-managed by both the incumbent LEC and the requesting carrier.[1523] However, the evidence in the record suggests that an ELP process, to be effective, would require significant and costly upgrades to the existing local network at both the remote terminal and central office. AT&T's ELP proposal proposes to "packetize" the entire public switched telephone network for both voice and data traffic, at a cost one party estimates to be more than $100 billion.[1524] Incumbent LECs state that AT&T's proposal would entail a fundamental change in the manner in which local switches are provided and would require dramatic and extensive alterations to the overall architecture of every incumbent LEC local telephone network.[1525] Given our conclusions above, we decline to require ELP at this time, although we may reexamine AT&T's proposal if hot cut processes are not, in fact, sufficient to handle necessary volumes.

492. In order to mitigate perceived difficulties with a transition from unbundled loops combined with unbundled local circuit switching to stand-alone loops, WorldCom proposes to establish rules ensuring that competitive LECs may obtain concentrated EELs at the DS0 level.[1526] WorldCom asserts that "TELRIC-priced EELs with concentration" could facilitate the competitive growth based on a UNE-L strategy.[1527] We agree with WorldCom that DS0 EELs can minimize collocation costs and increase the geographic reach of competitive LECs, thereby facilitating the expansion of competition based on UNE-L strategies in some markets.[1528] We

[1522] AT&T Comments at 235-39. The UNE-P Coalition states that electronic provisioning will allow thousands more migrations per day, thereby affording more consumers a competitive choice of provider. UNE-P Coalition Comments at 7.

[1523] AT&T Comments at 237.

[1524] *See* SBC Reply at 131 (estimating that, including the entire cost of all equipment necessary to implement AT&T's proposal, and assuming that a rough benchmark based on SBC's Project Pronto would be applicable to other incumbent LECs, it could cost more than $100 billion to implement ELP nationwide).

[1525] *See, e.g.*, SBC Reply at 129 (stating that AT&T's proposal would require substantial modifications to outside plant equipment, central office equipment, and OSS).

[1526] WorldCom Nov. 13, 2002 DS0 EELs *Ex Parte* Letter. The term "concentrated EELs" refers to an arrangement in which the competitive LEC utilizes concentration equipment allowing it to transport four to six DS0s or more on a single DS0-equivalent circuit. Thus, for example, using concentration a competitive LEC might use one DS1 circuit to carry 144 (rather than only 24) DS0s. WorldCom claims that such aggregation allows it to reach more customers more efficiently. *See id.* at 2; *see also* Letter from Jay Bennett, Executive Director – Federal Regulatory, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 4 (filed Nov. 14, 2002) (SBC UNE-Loop/Special Access *Ex Parte* Letter); Letter from Rebecca M. Sommi, Vice President – Broadview Networks *et al.*, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Nov. 26, 2002) (Broadview *et al.* Nov. 26, 2002 *Ex Parte* Letter).

[1527] WorldCom Nov. 13, 2002 DS0 EELs *Ex Parte* Letter.

[1528] *Id.*

decline, however, to establish at this time rules requiring concentration. The record demonstrates that DS0 EELs could increase loop costs[1529] and may raise several additional operational issues.[1530] Accordingly, we are not convinced, based on the limited record before us, that we should require incumbent LECs to include concentration when they provide UNEs to requesting carriers.[1531]

(b) State Commission Determinations

493. Although we find competitors to be impaired without access to the incumbent LEC's switch on a national level when serving the mass market, we authorize state commissions to play a fact-finding role – as set forth below – to identify where competing carriers are not impaired without access to unbundled local circuit switching.[1532] As discussed above, the record does not contain sufficient detail concerning which geographic and customer markets may in fact allow economic entry. In addition, impairments that exist today in certain markets may be remedied in the future due to the implementation of a batch cut process, as discussed above. Because our standard and the guidance from the *USTA* decision require that the determination of impairment be made on a granular basis, and because the record provides insufficient evidence concerning the characteristics of particular markets, we find it appropriate to ask the states to assess impairment in the mass market on a market-by-market basis.[1533]

[1529] Letter from Access Integrated *et al.*, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Dec. 11, 2002) (Access Integrated *et al.* Dec. 11, 2002 *Ex Parte* Letter); Letter from AT&T *et al.* to Michael K. Powell *et al.*, Chairman, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1 (filed Feb. 4, 2003) (AT&T *et al.* Feb. 4, 2003 *Ex Parte* Letter).

[1530] Letter from David A. Kunde, Executive Vice President of Network Operations, Eschelon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Oct. 21, 2002) (Eschelon Oct. 21, 2002 *Ex Parte* Letter).

[1531] According to WorldCom, some variant of the DS0 EEL is available and has been priced in at least the following states: Arizona, Arkansas, Colorado, Idaho, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Mexico, New York, North Dakota, Oklahoma, Oregon, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, and Wyoming. WorldCom Nov. 13, 2002 DS0 EELs *Ex Parte* Letter at 3 n.8.

[1532] Chairman Powell asserts that this proceeding has "transformed into a battle not over what should be unbundled, but who should decide – this Commission or the states." *See Chairman Powell Statement* at 3 (emphasis in original). Chairman Powell essentially characterizes the Commission's decision regarding unbundled switching as a battle over forum shopping. To the contrary, throughout the decision the Commission sets forth the same analytical framework – not only for the unbundled switching element but for other elements, including transport – that provides specific federal guidance under which the states perform a granular analysis to identify where competitive carriers are not impaired without access to a particular element. Surprisingly, Chairman Powell seems troubled by the framework as applied to unbundled switching yet appear unfazed by its existence and support its similar application to other elements.

[1533] Chairman Powell contends that with respect to unbundled switching there is a "default assumption of impairment" and that "[o]nly when all barriers to profitability have been eliminated does this Commission empower states to eliminate" unbundled switching. *Chairman Powell Statement* at 10 (emphasis in original); *see also* Commissioner Abernathy Statement at 6 (stating that "[t]he majority's multifactor test starts with a default (continued….)

494. We expect state commissions to follow a two-step process in determining whether to find "no impairment" in a particular market. In the first step, states will apply self-provisioning and wholesale triggers to a particular market to determine if the marketplace evidence of deployment of circuit switches serving the mass market requires a finding of no impairment. If the triggers are satisfied, the states need not undertake any further inquiry, because no impairment should exist in that market.[1534] If the triggers are not satisfied, the state commission shall proceed to the second step of the analysis, in which it must evaluate certain operational and economic criteria to determine whether conditions in the market are actually conducive to competitive entry, and whether carriers in that market actually are not impaired without access to unbundled local circuit switching. The states should evaluate evidence of switch deployment that does not automatically satisfy the triggers, but nonetheless may demonstrate the absence of impairment in the market.[1535]

(i) Defining the Market

495. The triggers and analysis described below must be applied on a granular basis to each identifiable market. State commissions must first define the markets in which they will evaluate impairment by determining the relevant geographic area to include in each market.[1536]

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presumption of impairment and cannot be overcome unless every conceivable obstacle to profitability has been eliminated."). That is incorrect. First, the Commission's decision makes a national finding "that competitors are not impaired without unbundled access to incumbent LEC local circuit switching when serving DS1 enterprise customers." Second, as to determinations of impairment regarding unbundled switching for mass market customers, the framework of analysis is essentially the same as the "assumptions" used to make findings of impairment for other elements, such as transport facilities. For example, for both unbundled local circuit switching and transport, the Commission requires states to examine triggers based on actual competitive deployment first, and when neither of these triggers is satisfied, the Commission sets forth factors that state commissions must apply to determine whether a market allows self-provisioning of the element. Where these factors suggest feasibility of self-provisioning of the element, states may render a "no impairment" finding. The dissent not only mischaracterizes the Commission's impairment test on unbundled switching, it also chooses to ignore the fact it supported application of the same test to other elements.

[1534] As explained below, we recognize that exceptional circumstances may preclude a state determination that there is no impairment in a given market even when one of the triggers has been satisfied.

[1535] Commissioner Abernathy states that, throughout this proceeding, she was willing to "peg[] non-impairment findings to deployment of a threshold number of switches." *Commissioner Abernathy Statement* at 3. However, throughout this process and prior to February 20th, she has been unwilling to distinguish the enterprise and mass markets in this analysis – the approach we adopt here. We believed – and continue to believe – that our approach is more consistent with the general impairment section approved unanimously by the full Commission. In that section, we agree to "conduct separate . . . impairment analyses based on [among others] two relevant customer classes – the mass market and the enterprise market." *See supra* para. 197.

[1536] Chairman Powell's criticism of the discretion we give states to define the relevant geographic market for purposes of the switching analysis is misplaced. *See Chairman Powell Statement* at 6-7. It is fundamental to our general impairment analysis to consider whether alternative facilities deployment shows a lack of impairment in serving a particular market. Indeed, we adopt triggers for the states to apply to measure impairment by considering this alternative facilities deployment in our analysis of loops, transport, and switching. Although the incumbent LECs argue that we should apply a zone approach to transport and loops, we define the relevant geographic market (continued….)

State commissions have discretion to determine the contours of each market, but they may not define the market as encompassing the entire state. Rather, state commissions must define each market on a granular level, and in doing so they must take into consideration the locations of customers actually being served (if any) by competitors,[1537] the variation in factors affecting competitors' ability to serve each group of customers,[1538] and competitors' ability to target[1539] and serve specific markets economically and efficiently using currently available technologies. While a more granular analysis is generally preferable, states should not define the market so narrowly that a competitor serving that market alone would not be able to take advantage of available scale and scope economies from serving a wider market. State commissions should consider how competitors' ability to use self-provisioned switches or switches provided by a third-party wholesaler to serve various groups of customers varies geographically and should

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for transport as route-by-route, and the relevant geographic market for enterprise loops as customer-by-customer, because of the economic and operational issues associated with alternative transport and loops deployment. As Chairman Powell recognizes, a switch can theoretically serve wide areas (provided that the costs of transporting traffic back to the switch are not cost prohibitive), so one would expect a broader market definition for switching than for loops or transport. *Chairman Powell Statement* at 7. Indeed, because we measure alternative "switching" in a given market, not switches located in that market, the physical location of the switch is not necessarily relevant to defining the geographic market. For example, a switch located in Rhode Island could satisfy the switching trigger in Massachusetts if it is serving customers in the relevant market in Massachusetts. *Chairman Powell Statement* at 7. To the extent the states define a geographic market broadly, it is more likely that such geographic market will capture sufficient switching alternatives to satisfy the trigger, thus resulting in removal of the particular UNE in that geographic market (a result the dissents would seem to endorse). The exact parameters of these geographic markets, however, cannot be defined nationally for switching because, as both incumbent LECs and competitive LECs agree, there are extreme variations in population density, and thus wire center line densities, across the country. *See generally* AT&T Jan. 17, 2003 *Ex Parte* Letter; SBC Jan. 14, 2003 UNE P *Ex Parte* Letter; WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter. States are, therefore, better positioned to draw these lines. Because states are more familiar with how these variations have affected competitive entry, and because there was no credible record evidence to show how we could establish these boundaries based on a national rule, we ask the states to create these boundaries. We do, however, provide the states significant guidance. We require state commissions to define each geographic market on a granular level and direct them to take into consideration the locations of customers actually being served by competitors, the variation in factors affecting competitors' ability to serve each group of customers, and competitors' ability to target and serve specific markets economically and efficiently using currently available technologies. We make clear that state commissions cannot define a market as encompassing an entire state and that they should not define the market so narrowly that a competitor serving that market alone would not be able to take advantage of available scale and scope economies from serving a wider market.

[1537] For example, if competitors with their own switches are only serving certain geographic areas, the state commission should consider establishing those areas to constitute separate markets.

[1538] For example, if UNE loop rates vary substantially across a state, and this variation is likely to lead to a different finding concerning the existence of impairment in different parts of the state, the state commission should consider separating zones with high and low UNE loop rates for purposes of assessing impairment.

[1539] For example, competitors often are able to target particular sets of customers, or customers in particular wire centers or rate zones.

attempt to distinguish among markets where different findings of impairment are likely. The state commission must use the same market definitions for all of its analysis.[1540]

496. Thus, for example, a state commission may choose to consider how UNE loop rates vary across the state, how retail rates vary geographically, how the number of high-revenue customers[1541] varies geographically, how the cost of serving customers varies according to the size of the wire center and the location of the wire center, and variations in the capabilities of wire centers to provide adequate collocation space and handle large numbers of hot cuts. We recognize that many states have implemented varied administrative tools to distinguish among certain markets within a state on a geographic basis for other purposes including retail ratemaking, the establishment of UNE loop rate zones, and the development of intrastate universal service mechanisms. If a state determines, after considering the factors just described, that these already-defined markets would be appropriate to use in this context as well, it may choose to use these market definitions.

497. For purposes of the examination described here, mass market customers are analog voice customers that purchase only a limited number of POTS lines, and can only be economically served via DS0 loops. Some mass market customers (*i.e.*, very small businesses) purchase multiple DS0s at a single location. The previous Commission determined that incumbent LECs that make the EEL combination available are not obligated to provide unbundled local circuit switching to requesting carriers for serving customers with four or more DS0 loops in density zone one of the top fifty MSAs.[1542] The previous Commission found that under such circumstances, lack of access to unbundled local circuit switching would not impair requesting carriers in these specific areas.[1543] At some point, customers taking a sufficient number of multiple DS0 loops could be served in a manner similar to that described above for enterprise customers – that is, voice services provided over one or several DS1s,[1544] including the same variety and quality of services and customer care that enterprise customers receive. Therefore, as part of the economic and operational analysis discussed below, a state must determine the appropriate cut-off for multi-line DS0 customers as part of its more granular review. This cross over point may be the point where it makes economic sense for a multi-line customer to be served via a DS1 loop. We expect that in those areas where the switching carve-out was applicable (*i.e.*, density zone 1 of the top 50 MSAs), the appropriate cutoff will be four

[1540] Therefore the market definitions used for the analysis of the triggers must also be used for the second step of the analysis, if the triggers are not satisfied.

[1541] These include, for example, business customers, as well as those residential customers likely to take vertical features and ancillary services such as data and voice mail service.

[1542] *UNE Remand Order*, 15 FCC Rcd at 3822-31, paras. 276-98.

[1543] *Id*.

[1544] The evidence in the record indicates that it may be viable to aggregate loops at a customer location and provide service at a DS1 capacity or higher. Specifically, if a customer has enough lines to justify the expense of purchasing multiplexing equipment and a high-capacity line, it makes sense to aggregate the customer's loops at the customer's premises, which avoids the need for hot cuts at the incumbent LEC's central office.

lines absent significant evidence to the contrary. We are not persuaded, based on this record, that we should alter the Commission's previous determination on this point.[1545] Accordingly, we authorize the states, within nine months of the effective date of this Order, to determine the appropriate cross over point.[1546]

(ii) Triggers

498. We adopt triggers as a principal mechanism for use by states in evaluating whether requesting carriers are in fact not impaired in a particular market. As noted above, we give substantial weight to actual commercial deployment of particular network elements by competing carriers.[1547] We find that the presence of facilities-based competitors is the best indicator that requesting carriers are not impaired. Therefore, our triggers identify existing examples of multiple competitive LECs using their own switches to serve mass market customers, or to provide a switching wholesale service. We require state commissions to find "no impairment" in a particular market when either trigger is satisfied, subject to the limitations described below. The use of triggers keyed to objective criteria can avoid the delays caused by protracted proceedings and can minimize administrative burdens.[1548] Our selection of various thresholds is based on our agency expertise, our interpretation of the record, and our desire to provide bright-line rules to guide the state commission in implementing section 251.

499. The triggers we set forth rely on the number of carriers that self-provision switches or the number of competitive wholesalers offering independent switching capacity in a

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[1545] Because the previous carve out only applied where "new" EELs were made available and because this Commission allowed state commissions to require switching to be unbundled even in areas where the carve-out test was met, it appears that the four-line carve-out was adhered to in very few areas in the country. SBC Reply at 30; BellSouth NERA Reply Decl. at 51-52. As part of their analysis, we expect states to make a finding of whether or not the carve out was in effect.

[1546] Commissioner Abernathy claims that our decision not to preserve the previous Commission's four-line carve-out represents a "potentially massive expansion" of unbundled switching. *Commissioner Abernathy Statement* at 8 n.27. This claim makes no sense. If a state finds that the appropriate cut-off for distinguishing enterprise from mass market customers in density zone 1 of the top 50 MSAs is four lines, there will be no more unbundled switching available than there was under the previous carve-out. Indeed, since the previous carve-out was conditioned on the availability of EELs and appears to have actually been in effect in very few areas of the country, *see supra* note 1545, setting the cut-off at an unconditional four lines would result in more customers being treated as enterprise customers subject to our finding of no impairment. If, on the other hand, a state finds based on record evidence that a cut-off of more than four lines is appropriate, more multi-line customers will be treated as mass market customers. But in no way will this result in an "expansion" of unbundled switching. To the contrary, as Commissioner Abernathy points out, "dozens of CLECs serve business customers of such size using their own switches." *Commissioner Abernathy Statement* at 8 n.27. Such widespread deployment of competitive switches would be considered under our mass market triggers. In such markets, then, it is more likely that there will be a finding of no impairment for the entire market, leading to significantly less unbundled switching than was available under the previous four-line carve-out.

[1547] *See supra* Part V.B.1 (discussing the impair standard).

[1548] *Pricing Flexibility Order*, 14 FCC Rcd at 14267-68, para. 84.

given market.[1549] In both cases, the competitive switch providers that the state commission relies upon in finding either trigger to be satisfied must be unaffiliated with the incumbent LEC and with each other.[1550] In addition, they should be using or offering their own separate switches.[1551] This requirement avoids counting as a true alternative a provider that uses the switching facilities of the incumbent LEC or *another* alternative provider that has already been counted. Moreover, the identified competitive switch providers should be actively providing voice service to mass market customers in the market. They must also be operationally ready and willing to provide service to all customers in the designated market.[1552] They should be capable of economically serving the entire market, as that market is defined by the state commission. This prevents counting switch providers that provide services that are desirable only to a particular segment of the market. Identified carriers providing *wholesale* service should be actively providing voice service used to serve the mass market, and providing it at a cost and quality and geographic scope that allow resellers to serve the entire market. However, the competing carriers' wholesale offerings need not include the full panoply of services offered by incumbent LECs.[1553]

[1549] As in the impairment triggers for high-capacity loops and dedicated transport, states also shall consider carriers that provide intermodal voice service using their own switch facilities (including packet and soft switches) that meet the requirements of these triggers and Part V above. *See supra* Part V.B.1.d.(ii) (describing intermodal alternatives generally, and factors affecting differences in the extent to which various intermodal alternatives are considered); *see also supra* paras. 332, 337 and notes 1256, 1278. In deciding whether to include intermodal alternatives for purposes of these triggers, states should consider to what extent services provided over these intermodal alternatives are comparable in cost, quality, and maturity to incumbent LEC services. *See supra* para. 97. For example, we note that CMRS does not yet equal traditional incumbent LEC services in its quality, its ability to handle data traffic, its ubiquity, and its ability to provide broadband services to the mass market. *See supra* para. 230. Thus, just as CMRS deployment does not persuade us to reject our nationwide finding of impairment, *see supra* para. 445, at this time, we do not expect state commissions to consider CMRS providers in their application of the triggers. In applying the triggers, states must consider packet switches to the extent they are used to provide local voice service to the mass market.

[1550] Affiliated companies will be counted together, in order to prevent gaming. We use the term affiliated and affiliate as the Act defines "affiliate." Section 3 of the Act defines the term "affiliate" as "a person that (directly or indirectly) owns or controls, is owned or controlled by, or is under common ownership or control with, another person. For purposes of this paragraph, the term 'own' means to own an equity interest (or the equivalent thereof) of more than 10 percent." 47 U.S.C. § 153(1).

[1551] While the record indicates that competitors do not currently purchase wholesale switching from non-incumbent-LEC providers, we find, for the limited purposes described herein, that if a carrier were to acquire the long term right to the use of a non-incumbent-LEC switch sufficient to serve a substantial portion of the mass market, that carrier should be counted as a separate, unaffiliated self-provider of switching.

[1552] In circumstances where switch providers (or the resellers that rely on them) are identified as currently serving, or capable of serving, only part of the market, the state commission may choose to consider defining that portion of the market as a separate market for purposes of its analysis.

[1553] We expect, however, that providers of switching will have an incentive to offer competitive terms with those of the incumbent LEC.

500. For the purposes of these triggers, we find that states shall not evaluate any other factors, such as the financial stability or well-being of the competitive switching providers.[1554] Competing carriers in Chapter 11 bankruptcy protection are often still providing service. Regardless of their financial status, the physical assets remain viable and may be bought by someone else and remain in service.[1555] We note that requiring states to determine the financial ability of competitive wholesale providers to provide service in the future could hamper economic recovery efforts of companies in financial distress. The key consideration to be examined by state commissions is whether the providers are currently offering and able to provide service, and are likely to continue to do so.[1556]

(a) Self-Provisioning Trigger

501. We determine that – subject only to the limited exception set forth below – a state must find "no impairment" when three or more unaffiliated competing carriers each is serving mass market customers in a particular market with the use of their own switches.[1557] We set the number of competitive facilities at three for several reasons. First, we choose three self-provisioners as the appropriate threshold in order to be assured that the market can support "multiple, competitive" local exchange service providers using their own switches.[1558] Second, setting the trigger at three competitive facilities takes into consideration the likelihood that self-providers will not offer their service for wholesale, based on the evidence that local exchange service providers have generally not shown an interest in providing wholesale services, in contrast to the wholesale trigger, described below, which is met if there are two actual wholesalers.[1559] Finally, we believe that the existence of three self-provisioners of switching demonstrates adequately the technical and economic feasibility of an entrant serving the mass

[1554] For the potential deployment analysis, however, the state commission may consider financial evidence relating to the difficulty in serving the mass market by existing competitive switch providers.

[1555] BOC UNE Fact Rebuttal Report at 20-24, 41-43.

[1556] For instance, states should review whether the competitive switching provider has filed a notice to terminate service in that market.

[1557] Competitors with their own switch that are providing service only on a wholesale basis should be counted for this test. Thus, for example, this test will be satisfied if there are three carriers providing service to mass market voice customers using their own switch, with two of the carriers providing only retail service, and one providing only wholesale service.

[1558] We therefore deny Bell Atlantic's petition seeking the elimination of unbundled switching in all geographic markets for all customer classes where a single competitive switch has been deployed. Verizon Feb. 17, 2000 Petition for Reconsideration at 9-11.

[1559] *See* Talk America Reply at 19; SWCTA Comments at 8-9; SWCTA Reply at 7; Supra Comments at 36; Navigator Comments at 6; Eschelon Comments at 28-29.

market with its own switch, and indicates that existing barriers to entry are not insurmountable.[1560]

502. We find, based on our review of the record, that competitive carriers providing service to mass market customers are impaired without access to local circuit switching.[1561] We determine that this is caused, in part, by the problems with the hot cut process identified above. We believe that this is unlikely to change until incumbent LECs implement batch cut processes. Nevertheless, particularly in light of the batch cut processes we are requiring states to approve and implement, we believe that competitive carriers will likely begin to utilize self-provisioned switches in greater numbers going forward. As discussed below, we require state commissions to monitor circumstances in their respective states for any significant changes in factors that may cause impairment.[1562] After a batch cut process has been put into place, we expect state commissions in subsequent reviews to reevaluate the circumstances surrounding self-provisioning, and expect that states will begin to find that requesting carriers are *not* impaired without access to unbundled switching as competing carriers self-provision switches in greater numbers.[1563]

503. *Exceptional Sources of Impairment.* In exceptional circumstances, states may identify specific markets that facially satisfy the self-provisioning trigger, but in which some significant barrier to entry exists such that service to mass market customers is foreclosed even to carriers that self-provision switches. For example, if there is no collocation space available for additional competitive LEC equipment, further competitive entry may be impossible, irrespective of other economic or operational circumstances. Where the self-provisioning trigger has been satisfied and the state commission identifies an exceptional barrier to entry that prevents further entry, the state commission may petition the Commission for a waiver of the

[1560] We recognize that when one or more of the three competitive providers is also self-deploying its own local loops, this evidence may bear less heavily on the ability to use a self-deployed switch as a means of accessing the incumbent's loops. Nevertheless, the presence of three competitors in a market using self-provisioned switching and loops, shows the feasibility of an entrant serving the mass market with its own facilities.

[1561] The Chairman claims that "the Majority blinds itself to the significant self-provisioned switching capacity that exists in the market and the fact that a number of competitors have overcome whatever economic impediments exist and are using that switching capability to serve mass market customers." *Chairman Powell Statement* at 7-8. This claim is simply wrong. We require the states to apply triggers that look only at actual deployment as the principal mechanism for evaluating impairment in a particular market. If the deployment triggers are met, the states must find no impairment. Even if these triggers are not met, we require the states to give evidence of a single competitively deployed mass market switch "particularly substantial weight" and evidence of enterprise switch deployment "substantial weight" in determining whether entry is economic. *See supra* paras. 508, 510. Moreover, the Chairman's contention that significant competitive mass market switching deployment exists currently, while unbundled switching is universally available, is in direct tension with his claim that "it is unreasonable to expect that competitors will utilize self-provisioned switching capacity while a steeply-discounted and long-term UNE-P alternative exists." *Chairman Powell Statement* at 6.

[1562] *See* Part VI.D.6.a.(ii)(e) (discussing continuing review).

[1563] We note, as described below, that state commissions will undertake subsequent granular reviews. *See infra* Part VI.D.6.a.(ii)(e) (discussing continuing review).

application of the trigger, to last until the impairment to deployment identified by the state no longer exists.[1564]

(b) Competitive Wholesale Facilities Trigger

504. Separate from the inquiry into self-provisioning, we direct states to consider whether switching facilities are available from competitive wholesale providers in a given market to serve mass market customers. Consistent with our approach with regard to transport and loops, we determine that carriers are not impaired if they are able to obtain switching from third parties offering access to their own switches on a wholesale basis. While the record shows that such wholesale alternatives are not generally available at this time, we establish this trigger as a mechanism for identifying markets with adequate wholesale alternatives, in the expectation such alternatives may well develop in the future. Therefore, state commissions should identify those markets in which requesting carriers are not impaired without unbundled local circuit switching because two or more competing carriers, not affiliated with each other or the incumbent LEC, offer wholesale switching service for that market using their own switch.[1565] In those markets, states should determine that requesting carriers are not impaired without access to unbundled local circuit switching. This test will ensure that local circuit switching can readily be obtained from a firm using facilities that are not provided by the incumbent.

505. We choose two competitive wholesale providers as the appropriate threshold because this standard ensures that states will only find "no impairment" where the market can support "multiple, competitive supply" and establishes an incentive for new local circuit switching facilities deployment while allowing competitive pressures from the wholesalers to control pricing and terms. A competitive carrier that is considering deploying switching facilities for the purpose of providing a wholesale offering is likely to be encouraged to deploy if its deployment will eliminate switching priced at TELRIC rates. Because we want to provide an incentive for competing carriers to deploy facilities, we do not demand the presence of more than two competitive wholesalers.[1566] Finally, we find that two wholesale providers, in addition to the

[1564] We do not find these types of barriers to be applicable to the wholesale trigger described below, because if the wholesale trigger is satisfied, even if further facilities-based entry is inhibited, the existence of two wholesale providers already provides a certain assurance that necessary facilities can be obtained by new entrants at competitive rates. Therefore we limit the state's ability to petition us, when an exceptional barrier to entry has been identified, to the application of the self-provisioning trigger.

[1565] We note that carriers providing switching services to the mass market not willing to provide wholesale services will be counted in the self-provisioning trigger described above.

[1566] Thus, if we were to establish a higher number than two as the threshold, such as four, to ensure the market is fully competitive, the first facilities-based potential entrant might be deterred from entry by the prospect of facing competition from providers using unbundled local circuit switching for a long time – until three other facilities-based competitors enter. With a threshold of two, the first facilities-based entrant need only wait until one other facilities-based entrant appears, before a finding of no impairment is warranted and they no longer face competition with switching priced at TELRIC.

incumbent LEC, should provide competitive pressures on pricing and terms and minimize the risk of "umbrella pricing" while encouraging deployment.[1567]

(iii) Analysis of Potential Deployment

506. Above, we have found that actual competitive deployment is the best indicator that requesting carriers are not impaired and, therefore, emphasize that the states should apply the self-provisioning and wholesale triggers described above, in their determination of whether impairment exists. We recognize, however, that the self-provisioning trigger discussed above identifies only the existence of *actual* competitive facilities serving the mass market and does not address the *potential* ability of competitive LECs to deploy their own switches to serve this market. For example, there may well be markets where self-provisioning of switching is economic notwithstanding the fact that no three carriers have *in fact* provisioned their own switches. In such cases, we expect states to find "no impairment." Therefore, we find that where neither of the triggers described above have been satisfied, the state must conduct further analysis to determine whether the market in question is suitable for "multiple, competitive supply."

507. In evaluating whether to find that requesting carriers are not impaired without access to local circuit switching, notwithstanding a market's failure to satisfy the triggers described above, the states shall evaluate three types of evidence, set forth more fully below. First, states must examine whether competitors are using their own switches to serve enterprise or mass market customers in the market at issue. Second, states must consider the role of potential operational barriers, specifically examining whether incumbent LEC performance in provisioning loops, difficulties in obtaining collocation space due to lack of space or delays in provisioning by the incumbent LEC, and difficulties in obtaining cross-connects in an incumbent's wire center, are making entry uneconomic for competitive LECs. Third, states must consider the role of potential economic barriers associated with the use of competitive switching facilities. Analyzing these factors in concert, state commissions must determine whether, in any particular market or markets, it is appropriate to find "no impairment."

(a) Evidence of Actual Competitive Deployment of Local Circuit Switches

508. States should first examine whether competitors are already using their own switches to serve voice customers in the relevant market. We determine that to the extent that there are two wholesale providers or three self-provisioners of switching serving the voice *enterprise* market, and the state commission determines that these providers are operationally and economically capable of serving the *mass* market, this evidence must be given substantial weight by the state commissions in evaluating impairment in the mass market. We find the existence of switching serving customers in the *enterprise* market to be a significant indicator of the possibility of serving the mass market because of the demonstrated scale and scope economies of serving numerous customers in a wire center using a single switch. Although

[1567] *See supra* para. 413 (describing umbrella pricing).

switches serving the enterprise market do not qualify for the triggers described above, we believe that, after implementation of a batch cut process, switches being used to serve the enterprise market are likely to be employed to serve the mass market as well, and that the state commission should investigate the feasibility of this. The evidence in the record shows that the cost of providing mass market service is significantly reduced if the necessary facilities are already in place and used to provide other higher revenue services, and a more efficient cut over process is in place.[1568] We choose three self-provisioners and two competitive wholesale providers as the appropriate threshold in order to be assured that the market can support "multiple, competitive" local exchange service providers using their own switch, and for the reasons described in the Trigger section above.[1569]

509. As with regard to the triggers described above, any competitive switch provider relied upon in the state's analysis here must be unaffiliated with the incumbent LEC and with any other carrier relied upon, and must be relying on its own switch.[1570] This requirement ensures that no provider that uses the switching facilities of the incumbent LEC or another alternative provider to provide service is counted as a separate alternative provider.

510. We also find that to the extent there is a switch in an area serving the local exchange mass market, this fact must be given particularly substantial weight. The existence of a competitor that is serving the local exchange mass market with its own switch provides evidence that the mass market can be served effectively. The state commission should consider whether the entire market could be served by this switch.[1571] Although a single self-provisioned switch is not sufficient to invoke the mandatory triggers described above, we conclude that the existence of even one such switch might in some cases justify a state finding of no impairment, if it determines that the market can support "multiple, competitive supply."[1572]

[1568] For example, a study by WorldCom purports to show that the average cost disadvantage a competitor labors under relative to the incumbent is significantly lower if the competitor already has its own switching, collocation, and transport facilities in place ($10.03 per customer, assuming the competitor has a 7% market share), than if it must build and install them ($21.59 per customer). WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter at 3, Attach. A at 2, Appendix: Table 1.

[1569] *See supra* paras. 501, 505.

[1570] Affiliated companies will be counted together, in order to prevent gaming. As described above, we use the term affiliated and affiliate as the Act defines "affiliate." *See supra* note 1550.

[1571] For example, a mass market switch with relatively high variable costs per customer (*i.e.*, in cases where the cost of acquiring and serving each additional customer is high, excluding the fixed costs of entry and collocation) may be able to serve only high revenue customers in the market economically. These variable costs would be determined by hot cut costs, churn, loop costs, and other customer-acquisition outlays.

[1572] Whether this competitor is using the incumbent's loops or its own loops should bear on how much weight to assign this factor, at least until such time as incumbent loops are no longer required to be unbundled.

(b) Operational Barriers to be Examined

511. As discussed above, state commissions should examine the role of potential operational barriers in determining whether to find "no impairment." In particular, state commissions should examine whether incumbent LEC performance in provisioning loops, difficulties in obtaining collocation space due to lack of space or delays in provisioning by the incumbent LEC, and difficulties in obtaining cross-connects in an incumbent's wire center, are making entry uneconomic for competitive LECs. As described above, we find that these factors can raise barriers to entry, but they are not the bases for our national finding of impairment.[1573]

512. *Loop Provisioning.* We have found on a national basis that the delays and costs associated with loop provisioning – those specifically arising from the hot cut process – impair a requesting carrier's entry into the mass market. Above, we have directed the state commissions to implement batch cut processes to reduce the economic and operational barriers posed by the present hot cut process. We recognize, though, that even after such processes are implemented, competitive carriers may face barriers associated with loop provisioning – even problems arising from the newly improved hot cut processes – which may continue to impair a requesting carrier's entry into the mass market. We therefore ask the state commissions to consider more granular evidence concerning the incumbent LEC's ability to transfer loops in a timely and reliable manner. Specifically, we ask the states to determine whether incumbent LECs are providing nondiscriminatory access to unbundled loops.[1574] Evidence relevant to this inquiry might include, for example, commercial performance data demonstrating the timeliness and accuracy with which the incumbent LEC performs loop provisioning tasks and the existence of a penalty plan with respect to the applicable metrics. For incumbent LECs that are BOCs subject to the requirements of section 271 of the Act, states may choose to rely on any performance data reports and penalty plans that might have been developed in the context of a past, pending, or planned application for long-distance authority. For other incumbent LECs, the states may choose to minimize the regulatory burden posed by extensive metric reporting and penalty plan requirements by reviewing other forms of evidence. State commissions should also consider

[1573] As noted above, we lack sufficient specific evidence concerning whether and where these factors will be significant enough to constitute impairment, particularly after a batch cut process has been implemented. Therefore, as part of its analysis, a state must consider evidence of whether operational considerations permit or prevent competitive entry in each market, and, if the latter, whether unbundling would overcome the impairment found. Here, we detail three particular types of operational barriers that may or may not give rise to impairment, even in the presence of a batch cut process.

[1574] In determining whether granular evidence contradicts our finding that the hot cut process imposes an operational barrier, the state commission should review evidence of consistently reliable performance in three areas: (1) Timeliness: percentage of missed installation appointments and order completion interval; (2) Quality: outages and percent of provisioning troubles; and (3) Maintenance and Repair: customer trouble report rate, percentage of missed repair appointments, and percentage of repeat troubles. This review is necessary to ensure that customer loops can be transferred from the incumbent LEC main distribution frame to a competitive LEC collocation as promptly and efficiently as incumbent LECs can transfer customers using unbundled local circuit switching. This evidence will permit states to evaluate whether competitive carriers are impaired because the quality of their services is below that offered by the incumbent.

whether the incumbent's facilities, human resources, and processes are sufficient to handle adequately the demand for loops, collocation, cross connects, and other services required by competitors for facilities-based entry into the voice market.

513. *Collocation.* As described above, we find that the absence of sufficient collocation space in the incumbent central office or offices might in some markets render competitive entry impossible and thus result in impairment. We therefore direct the state commissions to consider evidence concerning the costs and physical constraints associated with collocation in a particular market. We direct state commissions to consider whether competitive entry is inhibited, or is likely to be inhibited going forward, by the exhaustion of available collocation space in the incumbent LEC's central offices. Evidence relevant to this inquiry would include, for example, the amount of space currently available in those central offices; the expected growth or decline, if any, in the amount of space available; and the expected growth or decline, if any, of requesting carriers' collocation space needs, assuming that access to unbundled switching were curtailed. The state commissions shall consider this factor in determining whether to find that requesting carriers are not impaired without access to unbundled local circuit switching.

514. *Competitive LEC – to – Competitive LEC Cross Connects.* We have also determined that an incumbent LEC's failure to provide cross-connections between the facilities of two competitive LECs on a timely basis can result in impairment. Therefore, a state commission considering whether to find "no impairment" with regard to mass market switching must evaluate whether such delays increase requesting carriers' costs to such a degree that entry into the market is rendered uneconomic in the absence of unbundled switching. Evidence relevant to this inquiry would include, for example, information regarding the incumbent's practices and procedures with regard to provision of cross-connects linking competitive carriers' facilities, competitive LECs' complaints regarding the incumbent's past performance in this area, the incumbent LEC's response to these complaints, the costs incurred in connection with deficient performance in this regard, and the degree to which those costs render entry into a given market uneconomic.

(c) Economic Barriers to be Examined

515. State commissions conducting a review of unbundled switching must next examine whether economic factors associated with the use of competitive switching facilities are preventing competitive entry into the mass market, and, if not, whether it is appropriate to find that requesting carriers are not impaired without access to unbundled circuit switching in any particular market. Competing carriers argue that even using the most efficient network architecture available for entry, the UNE-L strategy, they are at a significant cost disadvantage vis-à-vis the incumbent.[1575] As discussed above, these carriers focus on two primary types of costs that only they face: (1) the costs of migrating incumbent LEC loops to their switches; and

[1575] *See* UNE-P Coalition Comments at 44-46; WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter at 3 (noting that switching has high fixed costs that must be spread over a large number of customers if a competing carrier is to achieve cost efficiencies similar to those enjoyed by the incumbent LEC).

(2) the costs of backhauling voice circuits to their switches from the end offices serving their customers, which as noted above, include the costs associated with collocation in the incumbent LECs' central offices.[1576]

516. As discussed above, we find that the record does not contain sufficient detail concerning the scope and scale of the barrier posed by the costs associated with migration and backhaul in particular markets to permit us to determine whether and where there may be exceptions to our national finding that competing carriers cannot economically serve the mass market without access to unbundled local switching.[1577] Accordingly, we ask state commissions to examine, on a granular basis, evidence that may demonstrate that requesting carriers are not impaired without access to unbundled local circuit switching.

517. *Evidence of Whether Entry is Economic.* In considering whether a competing carrier could economically serve the market without access to the incumbent's switch, the state commission must also consider the likely revenues and costs associated with local exchange mass market service, as detailed below.[1578] Specifically, state commissions must determine whether entry is likely to be economic utilizing the most efficient network architecture available to an entrant.[1579] While most comments have focused on the UNE-L strategy,[1580] in which a requesting carrier combines the incumbent's loops and transport with its own switch, collocation and backhaul, state commissions must also consider whether new technologies provide a superior means of serving customers. The analysis must be based on the most efficient business model for entry rather than to any particular carrier's business model. Because this analysis involves comparing the potential revenues to the potential costs of entry, a state will necessarily be weighing advantages and disadvantages an entrant has in attempting to serve mass market customers. In judging whether entry is economic, states must also consider how sunk costs and competitive risks affect the likelihood of entry.[1581]

[1576] *See infra* Part VI.D.6.a.(i) (discussing possible economic impairment).

[1577] *See id*.

[1578] *See infra* para. 519.

[1579] Consistent with the impairment standard we adopt today, state commissions must determine whether competitors are unable economically to serve the market. State commissions should not focus on whether competitors operate under a cost disadvantage. State commissions should determine if entry is economic by conducting a business case analysis for an efficient entrant. This involves estimating the likely potential revenues from entry, and subtracting out the likely costs (accounting for scale economies likely to be achieved). We note that for switching, at least, parties have submitted business case analyses to demonstrate the likely profitability of entry. *See* SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter; BellSouth Jan. 30, 2003 *Ex Parte* Letter; *see also* AT&T Jan. 17, 2003 *Ex Parte* Letter; WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter.

[1580] SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter; BellSouth Jan. 30, 2003 *Ex Parte* Letter; AT&T Jan. 17, 2003 *Ex Parte* Letter; WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter; AT&T Oct. 4, 2002 *Ex Parte* Letter; BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter; PACE Dec. 11, 2002 *Ex Parte* Letter.

[1581] We reject the dissenters' "bootstrapping" argument that other UNEs should not be considered in our impairment analysis. *Chairman Powell Statement* at 11-12; *Commissioner Abernathy Statement* at 7-8. First, we (continued….)

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note that consideration of these factors only arises where the competitive triggers have not been met. Second, we note that even though nondiscrimination and pricing obligations under section 251(c)(3) and 252 for each individual UNE certainly lower the cost of entry, these provisions do not necessarily establish that they will lower costs sufficiently to make entry economic without access to any one particular element. Even if interconnection and unbundling are performed as efficiently as is technically feasible, these costs must still be considered in our business case analysis to determine whether entry is uneconomic without access to a particular network element.

To illustrate, even if the unbundling of transport significantly lowers the cost of entry, the cost of using unbundled transport (priced at TELRIC) is still a cost that competitors will likely have to incur to provide local exchange service, and should be included in a business case analysis for determining whether entry is economic. Furthermore, to the extent that transport is needed to extend the loops from the subscriber's wire center to the competitor's collocation, that is an additional cost that should be included in a business case analysis. And even if a market would otherwise be capable of sustaining switch deployment, if an incumbent lacked sufficient collocation space, then, the additional cost (including securing building, additional space, power, etc.) should be considered in the business case analysis. Similarly, if competing carriers were unable to cross connect their cages, a competitive voice LEC would not be able to engage in line splitting with a competitive data LEC, reducing its potential revenues. The dissent is incorrect to conclude that this analysis equates calculating a cost for purposes of a business case analysis with "a source of competitive disadvantage." *Chairman Powell Statement* at 12; *see also Commissioner Abernathy Statement* at 8.

The dissents mischaracterize our intention. Unlike in the *UNE Remand Order*, we do not intend that the availability of any UNE at state established wholesale (TELRIC) rates could by itself constitute impairment without considering all costs and revenues in a business case analysis. Rather, we are requiring the states to conduct an analysis of whether entry is economic by comparing the potential revenues to the potential costs of providing a particular service. Mass market switching, in isolation, is not a service and thus cannot be easily evaluated. Instead, to evaluate the feasibility of self-deploying a switch, states should perform a business case analysis of providing local exchange service. As described, the potential revenues include basic service, vertical features, access charges, *see infra* para. 519, revenues beyond just "switching" revenues. Likewise, costs include the forward-looking, TELRIC costs of the other elements necessary to provide local service. *See infra* para. 520. The cost factors listed should not be considered in isolation, but only in the context of a broad business case analysis that examines all likely potential costs and revenues.

Contrary to the dissents' assertions, our determination of whether competitors are impaired without unbundled switching does not depend on, and is not directly related to, whether loops or transport are unbundled. Rather than compelling the unbundling of switching, the fact that such complementary inputs may be available on an unbundled basis serves to lower the cost of providing service and thereby makes facilities-based entry more likely to be economic. Indeed, the alternative to assuming that competitors will use UNEs priced at TELRIC as complementary inputs would be to conduct the business case analysis using the cost of self-provisioning all of the elements necessary to provide local exchange service. Such an analysis, however, would lead to significantly greater unbundling, as the costs of self-providing these elements is likely much higher than obtaining them from the incumbent priced at TELRIC. For example, the cost of self-providing a loop could be extremely high and using that cost in the business case analysis for switching would always lead to a finding of impairment. Thus, we reject such an approach and in our business case analysis consider the minimum cost of entering the market, which includes the wholesale (forward-looking, TELRIC) prices of UNEs purchased from the incumbent LEC that are necessary to provide the relevant service. Moreover, we note that to the extent that incumbent LECs believe that TELRIC prices are too low, as they claim, (*see, e.g.,* BellSouth Comments at 25; Verizon Comments at 32), it should make it easier to satisfy this business case analysis for determining whether switching can be self provisioned in a market.

Chairman Powell also asserts that we improperly considered factors that have "characteristics that are not linked to natural monopoly." *Chairman Powell Statement* at 12. As an initial matter, we note that our switching analysis avoids finding impairment on the basis of "natural monopoly" characteristics associated with elements that

(continued….)

518. State commissions should also consider how the existence of universal service payments and implicit support flows will impact competitors' ability to serve the specific market. As discussed in Part V.B.3 above, universal service payments and implicit support flows have been used to ensure the universal availability of local exchange service at affordable rates.[1582] These payments and support flows are likely to affect whether entry is economic, and therefore our impairment standard requires that they be taken into consideration. Particularly significant is the fact that implicit support flows have been incorporated into retail rates, such that retail rates for particular services may vary significantly from the cost of providing those services. State commissions should consider how competitors' ability to serve the market is facilitated in those areas where rates are "above cost," and is impeded where rates are "below cost," while recognizing that rates are likely to change over time in response to competition.[1583]

519. *Potential Revenues.* In determining the likely revenues available to a competing carrier in a given market, the state commission must consider *all* revenues that will derive from service to the mass market, based on the most efficient business model for entry. These potential revenues include those associated with providing voice services, including (but not restricted to) the basic retail price charged to the customer, the sale of vertical features, universal service payments, access charges, subscriber line charges, and, if any, toll revenues.[1584] The state must

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are complementary inputs (such as loops), because it assumes competitors will use UNEs purchased at TELRIC rates, where they are available. When we list various cost factors for state commissions to consider in their impairment analysis, we do so only because we determined that they were likely costs of entry, and were therefore relevant to a business case analysis.

[1582] *See infra* Part V.B.3. Section 254 of the 1996 Act requires that federal support mechanisms be "explicit and sufficient to achieve the purposes of this section", and should be based on a set of principles enumerated in section 254(b), including the principle that consumers in rural and high-cost areas should have access to telecommunications services at rates that are reasonably comparable to those charged in urban areas. 47 U.S.C. § 254(b). Section 254(f) permits states to adopt regulations "to preserve and advance universal service within that [s]tate," provided that these regulations are "not inconsistent with the Commission's rules to preserve and advance universal service." 47 U.S.C. § 254(f). States may also adopt regulations providing additional definitions and standards to promote universal service, but only to the extent that "such regulations adopt additional specific, predictable, and sufficient mechanisms to support such definitions or standards that do not rely on or burden Federal universal service support mechanisms." *Id*.

[1583] As discussed above in Part V.B.3., to the extent that unbundling tends to create pressures to reduce or eliminate these implicit support flows, we note that the states may choose to rebalance rates, adopt an explicit and portable support mechanism, and/or exempt rural and small incumbent LECs from unbundling obligations as provided in section 251(f)(1) of the Act.

[1584] *See, e.g.*, Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3, 11 (filed Sept. 25, 2002) (AT&T Sept. 25, 2002 *Ex Parte* Letter); SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter. The dissents' claim that considering, in the impairment analysis, retail rates that are low as a result of implicit universal service subsidies will "perpetuate reliance on UNE-P" is wrong. To begin with, our analysis considers such rates only if the triggers are not met. Moreover, the dissenters voted to approve an impairment analysis that specifically takes such rates into account. As mentioned, our general impairment standard – which Chairman Powell proposed and the Commission voted unanimously to approve – asks "whether all potential revenues from entering a market exceed the costs of entry, taking into account consideration of any counterveiling advantages that a new entrant may have." *See supra* para. (continued….)

also consider the revenues a competitor is likely to obtain from using its facilities for providing data and long distance services and from serving business customers.[1585] Moreover, state commissions must consider the impact of implicit support flows and universal service subsidies on the revenue opportunities available to competitors. State commissions must ensure that a facilities-based competitor could economically serve all customers in the market before finding no impairment.[1586] Consideration of potential revenues is consistent with our standard, as described in Part V above, and with the guidance of the *USTA* decision.[1587]

520. *Potential Costs*. Similarly, the state must consider all factors affecting the costs faced by a competitor providing local exchange service to the mass market.[1588] If the state

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84. This analysis requires examination of "prices," *see supra* para. 85, which, as the Order states in a section proposed by Chairman Powell and approved unanimously by the full Commission, may be low as a result of implicit universal service subsidies. *See supra* para. 164 ("[T]he impairment standard adopted by the Commission and reflected in the more granular state commission proceedings mandated by this Order addresses the existence of implicit support flows in several ways. . . . Our impairment standard . . . provides for consideration of whether entry is economic by taking into account the potential revenue opportunities available."). In the same section, again proposed by Chairman Powell and approved unanimously by the full Commission, we explicitly "recognize that 'below-cost' local exchange rates will tend to discourage competitive facilities-based entry, and the absence of such entry will be considered as evidence of impairment." *See supra* para. 168. As Chairman Powell and Commissioner Abernathy agreed, however, consideration of such evidence will not "perpetuate reliance" on UNEs. Specifically, facilities-based competitive entry may still occur because "new entrants using alternative technologies may have lower costs than the incumbent LEC even when UNE rates are set at reasonable levels" and because "[o]ur impairment standard also provides for consideration of evidence concerning the full range of revenue opportunities available" such as "premium" services "attractive to customers even when priced well above the incumbent LEC's rate for local exchange service." *See supra* para. 168 & n.543. Competing carriers can also gain access to the same universal service subsidies available to incumbent carriers by applying for "eligible telecommunications carrier" status. 47 U.S.C. § 214(e)(6); *see also* 47 U.S.C. § 254(e). These subsidies should encourage entry and, even where our deployment triggers are not met, the availability of the subsidies must be taken into account in determining whether entry is uneconomic. In addition, "the statute contains an exemption from the unbundling requirements for rural carriers and provides for state modification or suspension of the unbundling requirements for incumbent carriers serving, in the aggregate, less than two percent of the nation's access lines." Id

[1585] This analysis will therefore take into account the scale and scope economies available to carriers using existing facilities to provide a variety of services to all customers that are likely to be served by an efficient entrant.

[1586] Thus, in determining whether impairment exists in a market including a particular group of customers, the typical revenue to be obtained from *all* customers in that group must be considered, to ensure that an entering competitor will be able to serve all customers.

[1587] The *USTA* decision expressed concern that in some markets incumbent LECs' prices were above cost, and that the Commission failed to take this gap, and the advantage it conferred on competitors, into consideration in its impairment analysis in the *Local Competition Order*. *USTA*, 290 F.3d at 422-23. As discussed in Part V.B.3. (discussion of implicit support flows) *supra*, our standard, involving a granular analysis examining both the cost and revenues associated with entry, automatically incorporates competitive LECs' advantages such as these, and therefore addresses the *USTA* decision's concern about these situations.

[1588] The dissents argue that any consideration of the same factors that were considered in the *UNE Remand Order* is impermissible according to the *USTA* decision. *Chairman Powell Statement* at 11 n.30; *Commissioner Abernathy Statement* at 6 n.16. The use of factors common to the *UNE Remand Order* is beside the point. In this Order, we have fundamentally changed the formula (*i.e.*, the unbundling framework and standard) by which we consider these (continued….)

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factors. Thus, as stated above and unlike in the *UNE Remand Order*, they may play a role in our analysis, but are not individually dispositive of an impairment determination. *See supra* para. 106 ("While we no longer rely on, or formally examine, the five UNE Remand factors as a basis for our analysis of impairment, these factors still play a role in our analysis as they relate to the barriers to entry we have identified above."). Moreover, the dissents' claims that the factors we require states to examine as part of their granular inquiries are inconsistent with the *USTA* decision are wrong. *Chairman Powell Statement* at 9-11; *Commissioner Abernathy Statement* at 6 n.16. Their arguments are predicated upon a mischaracterization of *USTA* and are inconsistent with the Commission's decision in other sections of this Order that they have affirmatively supported.

For example, the dissents argue that the switching analysis relies on costs that are merely ordinary start-up costs and that these costs may not be taken into account under *USTA*. *Chairman Powell Statement* at 9; *Commissioner Abernathy Statement* at 7-8. As an initial matter, we note that these costs are only considered if the automatic triggers are not met. Moreover, although the Commission's switching analysis requires the states to examine certain factors that may contribute to the start-up costs of a new entrant, this is not the end of the inquiry. Consistent with the unbundling analysis applied in the rest of the Order and the guidance from *USTA*, we have examined these costs to determine whether, as balanced against the potential revenues that may be achieved, they are *sufficiently large* to prevent entry. That is, the inquiry we adopt today considers whether, after weighing all the costs associated with entry against the potential revenues and offsetting advantages, entry into the market is economic. A cost disparity that is typical of, and has not prevented, entry into the industry is insufficient to justify impairment under our standard. With respect to the factors themselves, there is general agreement in the record that the relevant start-up costs associated with entry into the local market include purchasing collocation, transmission equipment, transport, and loops. Indeed, in the cost studies submitted by the BOCs themselves they largely utilize the very same factors that we require the states to consider. *USTA* did not require us to ignore the costs associated with these factors; rather, the court directed us to set a higher threshold for determining when these costs, considered cumulatively, are sufficiently large as to create impairment. While any single cost factor may appear to be a small hindrance, it is only by considering the cumulative effect of all cost factors that the total potential hindrance to entry can be fully evaluated.

Notably, in criticizing our switching analysis, the dissents appear to attack the very impairment standard that they proposed, voted for, and applied to the Commission's analysis of transport and loops – other sections of the Order that they affirmatively supported. For example, Chairman Powell complains that "the Majority's switching decision conflates an impairment standard that properly asks whether entry is 'uneconomic' with the question of whether entry is profitable." *Chairman Powell Statement* at 14. We are at a loss to understand his complaint. The switching section in no way states a requirement to consider "profitability" – that is discussed in the general impairment section which was proposed by Chairman Powell and adopted unanimously by the Commission. The general impairment standard that Chairman Powell proposed and the Commission adopts unanimously asks "whether all potential revenues from entering a market exceed the costs of entry, taking into account consideration of any countervailing advantages that a new entrant may have." *See supra* para. 84. Furthermore, the general impairment section makes clear, in a passage proposed by Chairman Powell and adopted unanimously, that this analysis "is based on determining whether entry would be *profitable* without the UNE in question." *See supra* para. 85 (emphasis added). We merely ask whether entry is economic, and it is Chairman Powell that engages in bootstrapping, criticizing the very standard that he has proposed we consider.

Similarly, Chairman Powell claims that applying in the switching section the impairment standard he proposed and the Commission unanimously adopted "has converted the impairment standard into a protector of individual business plans." *Chairman Powell Statement* at 11. The Order's general impairment section, which again was proposed by Chairman Powell and adopted unanimously, devotes an entire paragraph to explaining why our impairment analysis does not entail assessing individual business plans. That paragraph – entitled "Impairment of Individual Requesting Carriers or Carriers Pursuing a Particular Business Strategy" states that "[w]e will not, as some commenters urge, evaluate whether individual requesting carriers or carriers that pursue a particular business strategy are impaired without access to UNEs." *See supra* para. 115. Rather, we explain, "an entrant is not

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commission determines that a UNE-L strategy is the most efficient means of serving the customer, these costs would likely include (among others):[1589] the cost of purchasing and installing a switch;[1590] the recurring and non-recurring charges paid to the incumbent LEC for

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impaired if it could serve the market in an economic fashion using its own facilities, concerning the range of customers that could reasonably be served and the services that could reasonably be provided with those facilities." *Id*. This same analysis applies in the switching section no less than it does in the other sections of this Order. *See supra* note 1579 (stating that "[t]he business case analysis pertains to "an efficient entrant" and an estimation of the "likely potential revenues" and the "likely costs").

Chairman Powell claims that "the Majority directs states to consider whether price and revenue reductions that result from additional competitive entrants can form the basis of impairment." *Chairman Powell Statement* at 13. This is simply false, as we do not direct states to consider any such thing. While we recognize that an academically pure interpretation of the impairment standard proposed by Chairman Powell and adopted unanimously in this item might take such reductions into account, we agree with Chairman Powell that a more administratively practicable approach would be to consider prevailing prices and revenues. Accordingly, we expect states to consider prices and revenues prevailing at the time of their analyses. We believe that these are reasonable proxies for likely prices and revenues after competitive entry and will result in a more administrable standard.

Finally, Chairman Powell maintains that our switching analysis "ignores the fact that the rates for collocation and hot cuts as well as other UNEs, are not within the control of the incumbent LEC and therefore are not cognizable under section 251(d)(2)." *Chairman Powell Statement* at 12. This claim is doubly wrong. First, each of these factors is within the incumbent LEC's control. The statute is clear that incumbent LECs are free to negotiate rates for UNEs, hot cuts, and collocation irrespective of statutory standards. *See* 47 U.S.C. § 252(a) ("[A]n incumbent local exchange carrier may negotiate and enter into a binding agreement with the requesting telecommunications carrier or carriers without regard to the standards set forth in subsections (b) and (c) of section 251."). Second, to the extent that these factors are impacted by forces beyond the incumbent LEC's control – for example, to negotiate UNE rates, an incumbent LEC must come to an agreement with a requesting carrier – there is no basis whatsoever for Chairman Powell's claim that they "are not cognizable under section 251(d)(2)." The text of the section 251(d)(2) does not mention or in any way suggest such a limitation. *See* 47 U.S.C. § 251(d)(2) ("In determining what network elements should be made available . . ., the Commission shall consider, at a minimum, whether . . . the failure to provide access to such network element would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer."). And the impairment standard proposed by Chairman Powell and adopted unanimously by the Commission requires consideration of "the costs of entry," which necessarily includes some factors entirely beyond the incumbent LEC's control. *See supra* para. 84. Indeed, with respect to high-capacity loop facilities, the Chairman proposed and the Commission unanimously approved consideration of multiple criteria outside the control of incumbent LECs, including. among other things, "local topography such as hills and rivers," "availability of reasonable access to rights-of-way," and "building access restrictions/costs." *See supra* para. 335; *see also id*. at para. 410 (listing similar criteria for transport).

[1589] Note that these costs are likely to be affected by whether the entrant is using the same facilities to serve customers in other markets, thus taking advantage of available scale and scope economies. Thus, a portion of the costs may be paid for by revenues generated in other markets, and the full cost should not be attributed to serving just one market. For example, it would be unreasonable to assume that the cost of developing a complete OSS system would have to be recovered within a single granular market. Also, if it is determined that an efficient entrant could efficiently serve both enterprise and mass market customers with the same switch, collocation and transport facilities, then the state's analysis of mass market customers in a particular market should not assume that the entire cost of these facilities is borne by these customers.

[1590] Granite Dec. 16, 2002 *Ex Parte* Letter.

loops, collocations, transport, hot cuts, OSS, signaling, and other services and equipment necessary to access the loop;[1591] the cost of collocation and equipment necessary to serve local exchange customers in a wire center, taking into consideration an entrant's likely market share, the scale economies inherent to serving a wire center, and the line density of the wire center;[1592] the cost of backhauling the local traffic to the competitor's switch;[1593] other costs associated with transferring the customer's service over to the competitor; the impact of churn on the cost of customer acquisitions;[1594] the cost of maintenance, operations, and other administrative activities;[1595] and the competitors' capital costs.[1596] State commissions should pay particular attention to the impact of migration and backhaul costs on competitors' ability to serve the market. We also note that parties to this proceeding have placed evidence in the record that economic impairment may be especially likely in wire centers below a specific line density.[1597] Before finding "no impairment" in a particular market, therefore, state commissions must consider whether entrants are likely to achieve sufficient volume of sales within each wire

[1591] SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter; BellSouth Jan. 30, 2003 *Ex Parte* Letter; AT&T Jan. 17, 2003 *Ex Parte* Letter; WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter; ASCENT Comments at 36; ASCENT Reply at 7; BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 4.

[1592] New South Reply at 25-26; NewSouth Fury Reply Aff. at para. 4; AT&T Jan. 17, 2003 *Ex Parte* Letter; WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter; BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 4.

[1593] The state commission should consider whether EELs or digital loop carrier remote terminals are the most effective means for a competitor to backhaul the traffic to its switch.

[1594] WorldCom Nov. 15, 2002 Customer Churn *Ex Parte* Letter; BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter at 4.

[1595] *See, e.g.*, BellSouth Jan. 30, 2003 *Ex Parte* Letter at 7; *see also* AT&T Feb. 4, 2003 UNE-L Cost Impairment *Ex Parte* Letter at 10.

[1596] These include the capital carrying costs for the period it takes a competitor to set up operations and achieve profitability. AT&T Feb. 4, 2003 UNE-L Cost Impairment *Ex Parte* Letter at 2, 10. Some of the costs listed here are unlikely to constitute by themselves a barrier to entry, particularly if the incumbent incurs the same costs for the provisioning of its retail service. A state commission should take them into consideration in performing a business case analysis, which requires consideration of all likely revenues and costs.

[1597] SBC and BellSouth have presented studies to show that competitors using their own switches should be able to earn a positive profit in wire centers serving at least 5,000 lines. SBC Jan. 14, 2003 Unbundled Switching *Ex Parte* Letter; BellSouth Jan. 30, 2003 *Ex Parte* Letter. WorldCom and AT&T provided studies to show that a competitor would operate under a significant cost disadvantage, and that this disadvantage is larger in small wire centers. AT&T Jan. 17, 2003 *Ex Parte* Letter; WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter. WorldCom claims that its cost study shows that in central offices with fewer than 25,000 residential lines, the cost of UNE-L will constitute an insurmountable barrier to entry and competition, even if there are significant reductions in incumbent LEC charges. In central offices serving 25,000 or more residential lines, competitive LECs that achieve a reasonable market share (*e.g.*, 7%) can profitably migrate customers served by unbundled loops combined with unbundled local circuit switching to their own switches, provided that state commissions ensure that operational and economic barriers are substantially reduced or removed. WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter at 7.

center, and in the entire area served by the entrant's switch, to obtain the scale economies needed to compete with the incumbent.[1598]

(c) Baseline Rolling Use of Unbundled Switching for Customer Acquisition Purposes

521. If, after applying the triggers and the flexible analysis of potential deployment described above, a state commission concurs that requesting carriers are impaired in the mass market in any particular market, we conclude that it must next consider the use of "rolling access to unbundled local circuit switching" to address impairment in that market. Specifically, we conclude that, in some cases, impairment in a given market could be mitigated by granting requesting carriers access to unbundled local circuit switching for a temporary period, permitting carriers first to acquire customers using unbundled incumbent LEC local circuit switching and later to migrate these customers to the competitive LECs' own switching facilities.[1599] As set forth below, we conclude that where transitional access to unbundled switching would cure any impairment that would otherwise undermine competition if requesting carriers were denied access to unbundled local circuit switching, the state must implement such "rolling" access rather than perpetuating permanent access to the switching element.[1600]

522. We note at the outset that in at least some cases, "rolling" access to unbundled local circuit switching could adequately address certain barriers to entry associated with the

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[1598] BiznessOnline.Com Feb. 14, 2003 *Ex Parte* Letter; PACE Dec. 11, 2002 *Ex Parte* Letter at 5-10; AT&T Jan. 17, 2003 *Ex Parte* Letter; WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter; AT&T Oct. 4, 2002 Comparing ILEC and CLEC Local Network Architectures *Ex Parte* Letter.

[1599] We refer to this as "rolling use" because under such a framework, each competitive LEC would obtain limited access to unbundled local circuit switching on a customer-by-customer basis.

[1600] Chairman Powell claims that our impairment test for switching is "unworkable." *Chairman Powell Statement* at 13. To the extent the impairment test for switching is not simple, however, it is because the facts surrounding impairment are not simple. For example, hot cut processes and the charges for them often vary substantially between states. Revenue potential also varies dramatically, as retail rates can vary between states, by the type of customer, and within the state. In order to conduct a granular analysis of the type called for by the D.C. Circuit, it is necessary to take these variations into account. Indeed, in the past, Chairman Powell has argued that such geographic variations and "complicated" factors must be taken into account. *See Commissioner Powell Second NPRM Statement*, 14 FCC Rcd at 8720-21 ("The availability of elements outside the incumbent's network could potentially turn on many factors, such as the existence of vendors and distribution channels, the presence of competing facilities-based LECs and the price of non-incumbent elements relative to the requesting competitor's ability to pay. These factors are likely to vary significantly from one market to the next . . . . It follows directly, then, that assessments of whether an element is necessary to provide service or whether failing to mandate access to that element would impair a new entrant's ability to provides service will vary significantly among different markets, states, and regions."). While a more simple solution would have been to find impairment or – as Chairman Powell would have found – no impairment nationwide, this approach would not have been responsive to the statute, the court, or the record in this case. Moreover, the enterprise loop analysis delegated to the states is arguably even more complicated as it requires the states to conduct a location-specific review on an individual customer-by-customer basis. *See supra* para. 328. Similarly, the transport analysis requires a route-by-route review. Again, both Chairman Powell and Commissioner Abernathy support these more complicated analyses.

switching element. First, competitive LECs may face difficulties in accumulating enough customers to justify batch line migration processing in both new central offices and existing collocations. Because the evidence in the record demonstrates that the provisioning delays caused by the manual hot cut process may place new entrants at a significant competitive disadvantage relative to the incumbent LECs, which are able to offer service to customers immediately after they receive a customer's order,[1601] we find that the availability of unbundled local circuit switching – even on a temporary basis – may enable competitors to acquire customers, aggregate them, and migrate them to the carrier's own switch in a manner that would not be feasible if the customers each had to be migrated individually upon signing up with the competitive LEC.

523. Second, rolling access to unbundled local circuit switching might satisfactorily address barriers associated with high customer turnover.[1602] Competitive LECs contend that high churn rates render them unable fully to recover the high non-recurring costs associated with the provision of UNE-L service to end users, because such costs are generally recovered on an amortized basis.[1603] We find that transitional access to unbundled local circuit switching could mitigate some of the costs related to customer churn. Such rolling access would allow the competitive LEC to incur the non-recurring costs associated with UNE-L service only *after* it had served the end user in question for some time. Given the record evidence that churn is most frequent in the first few months after the customer switches to a new carrier,[1604] rolling access to unbundled switching could eliminate a substantial portion of the non-recurring costs for which competitive LECs would otherwise have gone uncompensated.

524. In light of the prospect that rolling access to unbundled local circuit switching could permit requesting carriers to compete when they otherwise would have been impaired without access to the switching element, we require states to consider and to mandate such rolling access when appropriate, as described here. When a state commission finds that requesting carriers would be impaired in a particular market without access to unbundled local circuit switching, it must next determine whether granting such carriers rolling access to the switching element for a transitional period of 90 days or more would address the impairment

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[1601] As discussed above, the manual nature of the hot cut process, which requires coordination between competitive LEC and incumbent LEC technicians in a central office, takes a significant period of time. *See* WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter at 5. CompTel contends that the provisioning interval for lines served by unbundled loops combined with unbundled local circuit switching is, on average, 1-3 days where the corresponding average interval for an unbundled loop is five to six days. CompTel/PACE Oct. 31, 2002 *Ex Parte* Letter at 3.

[1602] WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter at 6.

[1603] *See, e.g.*, WorldCom Comments at 34 ("Customers may migrate away from the CLEC before the CLEC recovers installation and non-recurring costs."); Z-Tel Reply at 28-29.

[1604] WorldCom Nov. 15, 2002 Customer Churn *Ex Parte* Letter. As noted above, WorldCom estimates that it loses about 50% of all new customers within the first three months of service. For customers that choose its "Neighborhood" bundled local and long distance products, WorldCom loses, on average, 25% of its customers within 3 months. *Id.*

found.[1605] We conclude that in such cases, the narrow rolling access approach is more appropriate than an approach requiring continued open-ended unbundled access to the switching element. Thus, where the impairment is due primarily or exclusively to the problems associated with the economies of scale, the churn problem, or other issues that would be addressed by rolling access to unbundled local circuit switching, we ask the state commission to implement such a transitional access period for requesting carriers. That transitional period shall be no shorter than 90 days, though the state commissions may determine that a longer period is appropriate, and permit rolling access to unbundled local circuit switching for a period of more than 90 days.[1606]

(d) Transition Rules

525. To minimize potential service disruptions that could occur from the changes that we adopt today regarding local circuit switching, we retain the four-line "carve-out" from the unbundled local circuit switching obligation on an interim basis,[1607] pending state commission determinations pursuant to the framework set forth above. In the *UNE Remand Order*, the Commission determined that incumbent LECs are not obligated to provide unbundled local circuit switching to requesting carriers for serving customers with four or more DS0 loops in density zone one of the top fifty MSAs.[1608] If we were not to retain the carve-out, carriers could

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[1605] We recognize that the record includes support for a wide range of potential customer acquisition periods. WorldCom argues that, because of the high customer turnover, unbundled local circuit switching must not only be available for acquisition of new customers, but also remain available for each new customer for six months after acquisition. WorldCom Jan. 8, 2003 Switching *Ex Parte* Letter at 6. According to Talk America, competitive LECs must still be able to acquire customers using unbundled local circuit switching for 18 months to achieve sufficient numbers for lines for batch migration; to acquire customers in non-collocated locations to build toward density triggers; and to acquire and serve customers who have both on-net and off-net locations. Letter from Heather Gold, Counsel for Talk America *et al.*, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 4 (filed Dec. 17, 2002) (Talk America *et al.* Dec. 17, 2002 *Ex Parte* Letter). We choose a 90-day period here because the evidence in this proceeding suggests that a substantial portion of churn occurs within the first three months of service, and because the 90 day period allows competitive LECs significant opportunities to accumulate enough end users to justify a batch hot cut. *See, e.g.*, WorldCom Nov. 15, 2002 Customer Churn *Ex Parte* Letter.

[1606] As described in the following section, a state determination to require rolling access to unbundled switching – like a state determination to require open-ended access to the switching element – is subject to modification during a state commission's subsequent review.

[1607] We find that we have the authority to retain the four-line carve out, especially in light of case law suggesting that agencies are given additional deference for "interim" or "transitional" mechanisms. *See, e.g.*, *CompTel*,117 F.3d at 1068 (stating that although temporary agency rules are subject to judicial review notwithstanding their transitory nature, substantial deference by courts is accorded to an agency when the issue concerns interim relief); *CompTel*, 87 F.3d at 531; *MCI*, 750 F.2d at 140.

[1608] 47 C.F.R. § 51.319(c)(2); *UNE Remand Order*, 15 FCC Rcd at 3822-31, paras. 276-98. We note that the Commission, in the *UNE Remand Order*, had also required incumbent LECs subject to the switching carve-out rule to provide new EEL combinations. This aspect of the rule has become moot in light of the Supreme Court's ruling in *Verizon*. *See Verizon*, 535 U.S. at 531-38. Thus, we dismiss as moot Intermedia's petition for clarification of the carve-out's EELs requirements. *See* Intermedia Communications, Inc. Petition for Reconsideration and (continued….)

potentially accumulate more multi-line DS0 customers while states pursued their inquiries, only to risk losing those customers after states make their determinations pursuant to the framework described above. This inquiry will likely limit any multi-line DS0 unbundling obligation – either through the detailed review described in the preceding sections, or through a state determination of the appropriate cut-off for multi-line DS0 customers (*i.e.*, the point at which it makes economic sense for a multi-line customer to be served via a DS1 loop).[1609] By extending the four-line carve-out on an interim basis, pending such state commission action, we seek to avoid service disruptions that may result from expanding and then possibly reducing the eligibility for local circuit switching in this manner.[1610]

(e) Continuing Review

526. We emphasize that the framework set forth here contemplates ongoing state review of the status of unbundled switching. The operational and economic factors governing the analysis we have described are unlikely to remain constant as technology advances, customer needs change, and the competitive market for local service continues to mature. Therefore, after completion of the initial review described here, we expect states to conduct further granular reviews, pursuant to the procedures the state adopts, to reevaluate whether competitive LECs are impaired without access to unbundled local circuit switching, and whether such impairment, if found, could be cured by rolling access to such facilities. Like the initial proceeding, these further reviews might result in a state conclusion that requesting carriers are impaired in a particular market without access to unbundled local circuit switching, that carriers are *not* impaired, or that carriers *would be* impaired but for the availability of rolling access to such facilities. Where a state finds, applying the standards set forth above, that requesting carriers are no longer impaired without unbundled access to circuit switching, it shall reverse its previous decision that such access is required under section 251(c)(3). The proceedings described in this

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Clarification, in *Implementation of the Local Competition Provisions of the of the Telecommunications Act of 1996*, CC Docket No. 96-98 at 15-17 (filed Feb. 17, 2000) (Intermedia Feb. 17, 2000 Petition for Reconsideration).

[1609] *See supra* para. 497. We expect that in those areas where the switching carve-out was applicable (*i.e.*, density zone 1 of the top 50 MSAs), the appropriate cutoff will be four lines absent significant evidence to the contrary. *See id.*

[1610] We therefore reject arguments that we establish a national carve-out. *See, e.g.*, NewSouth Reply at 30; Z-Tel Comments at 52-54 & n.113; WorldCom Reply at 159-61; BellSouth Reply at 23. Because we retain the carve-out only on a transitional basis, and ask the states to establish an appropriate multiline DS0 cut-off point as part of their more granular review, we dismiss as moot the various requests before the Commission to reconsider and clarify the carve-out's terms. *See* Verizon Feb. 17, 2000 Petition for Reconsideration at 7-11; CompTel Feb. 17, 2000 Petition for Reconsideration at 2-5; Telecommunications Resellers Association Petition for Reconsideration, CC Docket No. 96-98 at 1-11 (filed Feb. 17, 2000); MCI WorldCom Feb. 17, 2000 Petition for Reconsideration at 20-23; AT&T Feb. 17, 2000 Petition for Reconsideration at 12-19; Birch Petition for Partial Reconsideration, CC Docket No. 96-98 at 1-9 (filed Feb. 17, 2000); Sprint Petition for Reconsideration and Clarification, CC Docket No. 96-98 at 7-9 (filed Feb. 17, 2000).

paragraph shall be completed within six months of the filing of a petition or other pleading submitted in accordance with the prescribed state procedures.[1611]

(f) State Commission Failure to Act

527. For the mass market, state commissions will conduct their initial reviews, applying the triggers and factors discussed above,[1612] within nine months of the effective date of this Order. The incumbent LEC must continue providing unbundled circuit switching in all locations until a state commission completes its proceedings. To the extent that a state commission fails to complete the granular inquiry,[1613] any aggrieved party may file a petition with this Commission demonstrating a state's failure to act pursuant to the procedures we outline today.[1614] Moreover, should a state commission fail to approve a batch cut migration process or provide a detailed explanation why such a process is not necessary within nine months of this Order's effective date, any aggrieved party will be permitted to initiate a proceeding with this Commission.[1615] The incumbent LEC must continue providing unbundled local circuit switching, subject to the four-line carve-out described above,[1616] while such a petition is pending with this Commission.

7. Transition of the Embedded Customer Base

528. We recognize the need to establish a transition plan to migrate the embedded unbundled local circuit switching customer base to an alternative service arrangement when unbundled local circuit switching is no longer made available. We find that we have the authority to establish such a plan because whether competing carriers can deploy facilities in a timely fashion is a key consideration in determining whether there is impairment. In instances when existing network elements may potentially be eliminated pending a fact-intensive investigation, we find that section 251(d)(2) gives us authority to promulgate reasonable transition rules to protect the public interest by preserving the status quo pending the outcome of the investigation and by giving competitive carriers a realistic opportunity to deploy their own

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[1611] *See supra* note 1291.

[1612] This includes the state commissions' approval of a batch cut migration process or, in the alternative, the provision of a detailed explanation why such a process is not necessary within nine months of this Order's effective date.

[1613] By "complete," we mean that a state commission, upon receiving sufficient evidence, has an affirmative obligation to review the relevant evidence associated with any market submitted by an interested party, and to apply the trigger and any other analysis specified in this Part to such evidence.

[1614] As discussed above, if a state fails to act, we set forth procedures for the Commission to step into the role of the state. *See supra* Part V.E.2. (discussing the role of the states).

[1615] *See id*.

[1616] *See supra* para. 525.

facilities.[1617] Because the record contains a wide range of proposals that, in many respects, do not on their own account fully for the interests of all stakeholders involved, we further recognize a need to exercise discretion in establishing the specific parameters for the transition plan. Our exercise of discretion is one that inherently resists mathematical precision, calling on us instead to make reasonable judgments based on a totality of competing factors.

529. The most critical aspect of any industry-wide transition plan is to avoid significant disruption to the existing customer base served via unbundled local circuit switching so that consumers will continue to have access to their telecommunications service. The record reflects that, by the end of 2002, more than ten million residential and small business lines were being served by competitive LECs via unbundled local circuit switching arrangements.[1618] We agree with carriers on the need to establish quantifiable milestones to ensure the transition takes place in an orderly manner.[1619] We recognize that eliminating unbundled access to incumbent LEC switching on a flash cut basis could substantially disrupt the business plans of some competitors. This is especially unacceptable, given that the record contains substantial evidence – including cost studies submitted by the incumbent LECs themselves – that competitive carriers suffer cost disadvantages and other barriers when they self-deploy switching in some locations.[1620] There is also a need for an orderly transition to afford sufficient time for carriers to implement any necessary business and operational plans and practices to account for the changed regulatory environment, including the need to modify or revise their interconnection agreements. For example, competitive LECs may need to develop new UNE-L provisioning systems, including hiring, training, and equipping loop provisioning and switch technicians; purchase and collocate new equipment; create additional customer service and trouble maintenance groups; revise wholesale billing systems; and develop capabilities for E911 and local number portability.[1621] Moreover, our transition plan must require the incumbent LEC to unbundle its local circuit switching facilities for some limited period *after* a state commission has found "no impairment," because otherwise a competitive LEC would be forced to halt its advertising and customer acquisition activities between the time the state commission issued its findings and the time the competitive LEC was able to serve its customers using alternative facilities. Finally, our plan must ensure that, as a practical matter, the transition occurs in a timely manner. We balance these important considerations against the reality that it would frustrate the statutory scheme and the court's conclusion that impairment is the "touchstone" of our unbundling

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[1617] *See* Letter from Jay Bennett, Executive Director – Federal Regulatory, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 5-7 (filed Nov. 19, 2002) (SBC Nov. 19, 2002 *Ex Parte* Letter).

[1618] PACE Jan. 14, 2002 *Ex Parte* Letter at 2.

[1619] SBC Reply at 112.

[1620] Letter from Jay Bennett, Executive Director – Federal Regulatory, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, Attach. *Residential Customers Can Be Profitably Served Using UNE-L* at 2 (filed Jan. 24, 2003) (SBC Jan. 24, 2003 *Ex Parte* Letter); *see also* BellSouth Jan. 24, 2003 *Ex Parte* Letter at 12.

[1621] *See, e.g.*, WorldCom Nov. 18, 2002 Transition to UNE-L *Ex Parte* Letter at 4.

decision if customers are not transitioned from required unbundled switching as expeditiously as possible.

530. The parties take diverging positions regarding a transition from unbundled switching to facilities-based service (*i.e.*, UNE-L or resale).[1622] Incumbent LECs generally support elimination of their obligation to unbundle local circuit switching and propose transition plans away from unbundled incumbent LEC local circuit switching.[1623] Competitive LECs generally oppose the incumbent LEC transition proposals and argue that the Commission should not establish triggers to transition away from incumbent LEC unbundled local circuit switching. In several *ex parte* presentations, a number of parties softened their initial positions and proposed narrowly tailored transition proposals towards promoting facilities-based competition. For example, incumbent LECs propose transition plans based on a finding of no impairment for all customer classes. Several competitive LECs propose migration from unbundled switching to competitive LEC-owned switching over time based on ensuring that competitive LECs migrate to their own switching platform as self-provisioned switching becomes technically and economically feasible, with all proposals envisioning substantial state involvement to administer

[1622] SBC, for example, offers a proposal with respect to customers served by unbundled loops combined with unbundled local circuit switching, which relies on the establishment of a national two-year transitional wholesale offering for serving residential customers that is functionally equivalent to such an arrangement at a rate of $26 per month. *See* SBC Nov. 19, 2002 *Ex Parte* Letter at 5. Under SBC's proposal, resale and UNE-L options would remain available for competitive LECs to serve the mass market. Several competitive LECs propose migration from unbundled switching to competitive LEC-owned switching over time based on ensuring that competitive LECs migrate to their own switching platform as self-provisioned switching becomes technically and economically feasible. *See* Letter from Heather B. Gold, Representative for Broadview, Talk America, and Eschelon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 2, 2003) (Broadview *et al.* Jan. 2, 2003 Unbundled Switching to Unbundled Loop Proposed Migration *Ex Parte* Letter).

[1623] *See* Verizon Oct. 16, 2002 *Ex Parte* Letter at 18; Verizon Jan. 10, 2003 *Ex Parte Letter* at 2 (stating that if the Commission chooses to adopt a transition plan for residential customers, an appropriate transition would be one that moves quickly to the resale price prescribed by Congress). According to Verizon, the Commission should transition the residential rates for access to unbundled loops combined with unbundled local circuit switching to the state-established resale rate over a 12-month period. *See* Verizon Jan. 10, 2003 *Ex Parte* Letter at 2. One third of the differential would be eliminated immediately, as of the date of the Commission's order. *Id.* Another third would be eliminated after six months. *Id.* At the end of the 12-month period, the residential rates for access to unbundled loops combined with unbundled local circuit switching would be the resale rate. *Id.* at 2-3. Verizon further recommends that these transitional rates apply to the embedded base of residential customers served by unbundled loops combined with unbundled local circuit switching as well as any new customers added for the first six months after the Commission's order. *Id.* Qwest's plan, for example, would require the following: (1) Day 60 – Competitive LECs would declare its preferred transition option; (2) As soon as possible – Transition existing customers served by unbundled loops combined with unbundled local circuit switching to Resale or Unbundled Switching; (3) August 2003 – Transition existing customers served by unbundled loops combined with unbundled local circuit switching to new market-based product offering from Qwest; and (4) December 2003 – Transition existing customers served by unbundled loops combined with unbundled local circuit switching to stand-alone loops on a negotiated project basis. *See* Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, Attach. at 2 (filed Oct. 30, 2002) (Qwest Oct. 30, 2002 Switching *Ex Parte* Letter).

the phase-out.[1624] For example, Broadview, Eschelon, and Talk America propose a four-step migration plan, which requires incumbent LECs to create efficient loop provisioning processes for hot cutting unbundled loops combined with unbundled local circuit switching to unbundled stand-alone loops migration once competitive LECs exceed prescribed line densities.[1625] Z-Tel details a five-step plan for building wholesale switching and transport alternatives, which, it contends, will support the entry of several telecommunications firms.[1626] While we decline to adopt these proposed transition plans,[1627] and any other transition proposal in full, we base our decision on evaluation of those proposals in the record and our transition plan goals noted above.

531. We find that state commissions are well suited to monitoring the operational aspects of this migration, and we therefore incorporate a state role into our transition plan. State commissions have strong incentives both to encourage competition (as a means of providing citizens of their states with a choice of service providers) as well as to foster new investment (as a means of promoting economic growth in their states). The evidence in the record demonstrates that state commissions have a strong interest in creating the conditions for transition from service using unbundled local circuit switching to unbundled stand-alone loops wherever possible, and managing the transition in a way that promotes investment as well as continued choice for consumers. We therefore require competitive and incumbent LECs to jointly submit the details

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[1624] Broadview *et al.* Jan. 2, 2003 Unbundled Switching to Unbundled Loop Proposed Migration *Ex Parte* Letter; Letter from Heather B. Gold, Counsel for Broadview, Talk America, and Eschelon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 2 (filed Dec. 31, 2002) (Broadview *et al.* Dec. 31, 2002 *Ex Parte* Letter).

[1625] Broadview *et al.* Jan. 2, 2003 Unbundled Switching to Unbundled Loop Proposed Migration *Ex Parte* Letter at 2. According to the plan, step 1 requires incumbent LECs to develop, implement, and then have certified a loop migration process in each state. *Id.* Then, according to step 2, once an incumbent LEC has implemented a satisfactory migration process, it can petition the state to determine sufficient customer density to justify facilities investment. *Id.* at 4. Step 3 provides competitive LECs with at least 18 months to migrate lines above the requisite numbers to their own facilities; for subsequent migrations, competitive LECs will have six months to establish collocation and migrate lines above the requisite number to their own facilities. Lastly, step 4 of their proposal requires that competitive LECs be able to acquire customers using unbundled local circuit switching, pending implementation of an incumbent LEC efficient loop migration process.

[1626] *See* Letter from Christopher J. Wright, Counsel for Z-Tel, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Nov. 22, 2002) (Z-Tel Nov. 22, 2002 *Ex Parte* Letter). Z-Tel's plan envisions the availability of unbundled access to switching until vibrant, effective, and efficient wholesale alternative providers of mass market switching and transport services are in place. *Id.* at 1. The five-step plan consists of equal access requirements for loop provisioning; competitive wholesale interoffice transport; switch-based competitive LEC transfer from unbundled local circuit switching; competitive analysis of wholesale providers by state commissions; and a transition to wholesale providers. *Id.* at 2. A key aspect of the plan is to make sure the steps are completed in sequence before proceeding to the next step. *Id.* According to Z-Tel, the principal adjudicator as to whether a step has been completed is the state commission. *Id.* at 6.

[1627] While the Supreme Court has advised that "[t]he Commission cannot, consistent with the statute, blind itself to the availability of elements outside the incumbent's network," including review of requesting carriers ability to "self-provision, or purchas[e] from another provider," the Commission is not obligated to establish a wholesale market for switching and transport. *See Iowa Utils. Bd.*, 525 U.S. at 389.

of their implementation plan to the appropriate state commission. In addition, we require competitive LECs to notify the relevant state commissions when they have submitted their orders for migration. Finally, we require incumbent LECs to notify the relevant state commission when they have completed the migrations.

532. Competing carriers must transfer their embedded base of DS1 enterprise customers to an alternative service arrangement within 90 days from the end of the 90-day state commission consideration period, unless a longer period is necessary to comply with a "change of law" provision in an applicable interconnection agreement.[1628] To the extent a state commission finds "no impairment" for mass market customers in a particular market, we require mass market carriers to commit to an implementation plan with the appropriate incumbent LEC within two months from the finding of no impairment. Thus, if a state commission determines that there is no impairment for a particular market in its initial 9 month review, the carriers must have a plan in place within 11 months of the effective date of this Order. By five months after a finding of no impairment, competitive LECs may no longer request access to unbundled local circuit switching. Moreover, we require competitive LECs to submit the necessary orders[1629] for one-third of their customers in accordance with the following schedule: (1) 13 months after a finding of no impairment: Each competitive LEC must submit orders for one-third of all its unbundled local circuit switching end users; (2) 20 months after a finding of no impairment: Each competitive LEC must submit orders for half of its remaining unbundled local circuit switching end users; and (3) 27 months after a finding of no impairment: Each competitive LEC must submit orders for its remaining unbundled local circuit switching end users.[1630]

[1628] *See infra* Part VIII.D (transition period).

[1629] For purposes of calculating the number of customers who must be migrated, the embedded base of customers shall include all customers served using unbundled switching that are not being served with transitional unbundled switching.

[1630] We disagree with Chairman Powell's claim that permitting competitive LECs to transition their mass market customers off of unbundled switching over the course of a three-year period is either unreasonable or unlawful. *Chairman Powell Statement* at 13. As an initial matter, we note that, at the time of this Order's adoption, there were over ten million customers receiving local service over unbundled local switches. Chairman Powell concedes that the Commission has the discretion to set forth reasonable transition periods and, given the enormous number of customers that may potentially be affected, we believe that three years is a reasonable amount of time. *Chairman Powell Statement* at 13. Further, we note that this Commission voted unanimously to give the states unlimited discretion to determine the appropriate transition period for migrating customers off of enterprise loops and transport UNEs where they find no impairment for these facilities. *See, e.g.*, *supra* para. 338 (stating expectation that states will give competitors an "appropriate period" to transition from unbundled loops). Significantly, Chairman Powell does not appear to be concerned about legality of continued access to these facilities after an "*express finding* of no impairment." *Chairman Powell Statement* at 13. Moreover, under our switching transition period, competitive LECs must begin transitioning one-third of their customers to their own facilities 13 months after a finding of no impairment. Once competitive carriers have incurred the fixed costs associated with deploying their own switching facilities to support one-third of their customers, we find it likely that such carriers will have an incentive to fill the capacity of their switch such that they will not necessarily need the full three years to complete the migration – assuming, of course, that the incumbents can successfully manage the cutover process. Finally, providing a sufficiently long transition for the embedded base of customers should have the effect of encouraging competitive entry and investment in the future. Without such a transition, potential entrants might fear that (continued….)

E. Shared Transport

1. Background

533. In the *Triennial Review NPRM*, the Commission sought comment on whether it should retain or modify the existing unbundling obligations for shared transport.[1631] The Commission previously has defined shared transport as "transmission facilities shared by more than one carrier, including the incumbent LEC, between end office switches, between end office switches and tandem switches, and between tandem switches in the incumbent LEC's network."[1632] In the *Shared Transport Order*, the Commission clarified the extent to which incumbent LECs are obligated to provide requesting carriers with access to shared transport.[1633] The Commission later found in the *UNE Remand Order* that, without access to shared transport, requesting carriers are impaired in their ability to use unbundled local circuit switching.[1634]

2. Discussion

534. Incumbent LECs and competitive LECs demonstrate that the use of unbundled shared transport is tied exclusively to unbundled local switching.[1635] Verizon and SBC assert that because switching and shared transport are inextricably linked, if incumbent LECs are no longer obligated to unbundle switching, they should no longer be obligated to unbundle shared transport.[1636] We agree. Therefore, we find that requesting carriers are impaired without access to unbundled shared transport only to the extent that we find they are impaired without access to unbundled switching.[1637] Because unbundled shared transport is linked to the use of unbundled

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investments they make in facilities, office systems, and marketing would be stranded if future unbundling decisions suddenly made their business plans no longer viable.

[1631] *Triennial Review NPRM*, 16 FCC Rcd at 22809-10, para. 63.

[1632] *UNE Remand Order*, 15 FCC Rcd at 3862, para. 370; 47 C.F.R. § 51.319(d)(1)(iii); *see generally Shared Transport Order*, 12 FCC Rcd 12460.

[1633] *Shared Transport Order*, 12 FCC Rcd at 12462, para. 2.

[1634] *UNE Remand Order*, 15 FCC Rcd at 3862-66, paras. 369-79.

[1635] *See, e.g.*, SBC Comments at 81; Verizon Comments at 95 n.319; SBC Reply at 141; Letter from Peter Karoczkai, InfoHighway Communications Corp., to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 1 (filed Feb. 14, 2003) (InfoHighway Feb. 14, 2003 *Ex Parte* Letter); Z-Tel Reply at 68-69; *UNE Remand Order*, 15 FCC Rcd at 3862, para. 369 n.731 (stating, "the only carrier that would need shared transport facilities would be one that was using an unbundled local switch"); *Id*. at 3863, para. 371 (stating, "shared transport is technically inseparable from unbundled switching.").

[1636] *See* SBC Comments at 81; Verizon Comments at 95 n.319; SBC Reply at 141.

[1637] This conclusion is similar to the Commission's conclusion in the *UNE Remand Order*. *See* 15 FCC Rcd at 3862, para. 369 ("where an incumbent LEC provides requesting carriers with access to unbundled switching, we require incumbent LECs also to provide access to unbundled shared transport services").

switching, and because the Commission delegates a role to state commissions in identifying impairment for unbundled circuit switching,[1638] states should incorporate into their analyses of switching the economic characteristics of shared transport and other backhaul.[1639] Thus, we find that requesting carriers are impaired without access to unbundled shared transport – transmission facilities shared by more than one carrier between end office switches, between end office switches and tandem switches, and between tandem switches[1640] in the incumbent LEC's network – to the extent that local circuit switching is unbundled.

F. Packet Switching

1. Background

535. In the *UNE Remand Order*, the Commission defined "packet switching capability" as "routing or forwarding packets, frames, cells or other data units based on address or other routing information contained in the packets, frames, cells or other data units" as well as the functions performed by DSLAMs.[1641] The Commission also excluded packet switching functionalities from the section 251(c)(3) unbundling obligations, except in limited circumstances.[1642]

[1638] *See supra* Part VI.D (describing the role states may take in identifying impairment for unbundled local circuit switching).

[1639] The record indicates that without access to unbundled shared transport, a requesting carrier with access to unbundled switching would have to obtain dedicated transport from the incumbent LEC, from a third party, or by self-provisioning. *See, e.g.*, AT&T Comments at 159, 161; *see also UNE Remand Order*, 15 FCC Rcd at 3864, para. 374. Our discussion of dedicated transport, above, analyzes the barriers to entry related to self-deploying or otherwise obtaining dedicated transport facilities. *See* Part VI.B.3.d, *supra*. The record also indicates that shared transport is rarely available from third party sources and no incumbent LEC presents evidence of third-party alternatives to unbundled shared transport. *See* UNE-P Coalition Comments at 54; CTC Reply at 18.

[1640] Shared transport between local tandem switches sometimes is used by competing carriers for "transiting" – a means of indirectly interconnecting with other competing carriers for the purpose of terminating local and intraLATA traffic. *See, e.g.*, InfoHighway Feb. 14, 2003 *Ex Parte* Letter at 2. To date, the Commission's rules have not required incumbent LECs to provide transiting. *See Application by Verizon Maryland Inc., Verizon Washington, D.C. Inc., Verizon West Virginia Inc., Bell Atlantic Communications Inc., (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), Verizon Global Networks Inc., and Verizon Select Services Inc., for Authorization to Provide In-Region, InterLATA Services in Maryland, Washington, D.C., and West Virginia*, WC Docket No. 02-384, Memorandum Opinion and Order, 18 FCC Rcd 5212, 5271, para. 101 (2003) (*Verizon Maryland/DC/West Virginia 271 Order*). The Commission plans to address transiting in its pending *Intercarrier Compensation* rulemaking proceeding. *See Developing a Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, Notice of Proposed Rulemaking, 16 FCC Rcd 9610 (2001) (*Intercarrier Compensation NPRM*).

[1641] *UNE Remand Order*, 15 FCC Rcd at 3833-34, paras. 302-04; *see* 47 C.F.R. § 51.319(c)(4).

[1642] *UNE Remand Order*, 15 FCC Rcd at 3838-39, para. 313; *see* 47 C.F.R. § 51.319(c)(5). An incumbent LEC must provide access to unbundled packet switching only where the incumbent LEC has deployed digital loop carrier systems or otherwise deployed fiber optic facilities in the distribution part of the loop; has no spare copper loops (continued….)

536. In the *Triennial Review NPRM*, the Commission sought comment on whether, in light of changed circumstances, it should retain this limited unbundling requirement and if so, whether it should modify this requirement or the existing definition of packet switching, including the DSLAM functionality.[1643] The Commission also sought comment on the benefits and burdens resulting from the packet switching unbundling requirement and whether there are any alternative, less burdensome options available to achieve the goals of the Act.[1644]

2. Discussion

537. We find, on a national basis, that competitors are not impaired without access to packet switching, including routers and DSLAMs.[1645] Accordingly, we decline to unbundle packet switching as a stand-alone network element.[1646] We further find that the Commission's limited exception to its packet-switching unbundling exemption is no longer necessary.[1647] Lastly, our decision not to unbundle stand-alone packet switching is consistent with the goals of section 706 of the 1996 Act.[1648]

538. Evidence in our record demonstrates that the considerations applied in the *UNE Remand Order* apply with equal force at this time to support our earlier decision not to unbundle packet switching as a stand-alone network element.[1649] Specifically, the record shows that a wide range of competitors are actively deploying their own packet switches, including routers and

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capable of providing the xDSL service the requesting carrier seeks to offer; has not permitted the requesting carrier to collocate its own DSLAM at an appropriate subloop point; and has deployed packet switching for its own use.

[1643] *Triennial Review NPRM*, 16 FCC Rcd at 22809, paras. 61-62.

[1644] *Id*. at 22809, para. 62.

[1645] As discussed below, this conclusion applies to both the mass market and the enterprise market.

[1646] *See UNE Remand Order*, 15 FCC Rcd at 3835, para. 306. The incumbent LECs contend that packet switching should not be required as a UNE. *See*, *e.g.*, SBC Comments at 52; Qwest Comments at 41. Sprint also states that it "does not quarrel with this position, at least in the central office environment." *See* Sprint Reply at 32.

[1647] *See UNE Remand Order*, 15 FCC Rcd at 3838-39, para. 313. Access to packet switching functionalities as used in DLC loop architecture is discussed in Part VI.A.4., *infra*, which addresses unbundled loops.

[1648] 47 U.S.C. § 157 nt.

[1649] Based on the record in this proceeding, we deny the portion of WorldCom's Petition for Reconsideration arguing that the Commission should reconsider its prior decision to not unbundle packet switching beyond the limited exception provided for in our vacated rules. *See* MCI WorldCom Feb. 17, 2000 Petition for Reconsideration at 2-15. For the same reasons, we deny the portion of the Petition for Reconsideration and Clarification of Intermedia Communications, Inc. arguing that the Commission should reconsider its prior decision to not unbundle packet switching. *See* Intermedia Feb. 17, 2000 Petition for Reconsideration at 3-13. Because we decline to unbundle packet switching as a stand-alone UNE under our new unbundling framework, we dismiss as moot the arguments raised in the Intermedia Petition for Reconsideration and the Petition for Reconsideration filed by CompTel dealing with forms of packet switching and combinations that include packet switching. *See* Intermedia Feb. 17, 2000 Petition for Reconsideration at 3-13; CompTel Feb. 17, 2000 Petition for Reconsideration.

DSLAMs to serve both the enterprise and mass markets,[1650] and that these facilities are much cheaper to deploy than circuit switches.[1651] In fact, according to the BOC UNE Fact Report 2002, unrebutted in the record, competitive LEC deployment of packet switching has doubled since the *UNE Remand Order*, from 860 in 1998 to at least 1,700 in 2001.[1652] In addition, more than 55 competitive LECs have deployed packet switches in more than 200 different cities.[1653] In the top 100 MSAs, the average number of packet switches per MSA has grown by an average of nearly 150 percent since our last UNE review.[1654] The record also shows that several carriers maintain their own frame relay and ATM networks with AT&T, WorldCom, and Sprint each operating extensive, nationwide networks.[1655] In addition, competitive carriers lead incumbent LECs in the deployment of Gigabit Ethernet switches.[1656]

539. Consistent with the *UNE Remand Order*, we conclude that any collocation costs and delays incurred by requesting carriers to provide packet switched services do not rise to a level so as to require us to modify the Commission's previous finding not to unbundle packet switching.[1657] In fact, the record shows that any advantages that competitive LECs may have in obtaining collocation space are likely outweighed by their advantage in relying solely on newer, more efficient technology.[1658] In addition, most of the arguments regarding the difficulties associated with collocation for packet switches deal with collocation at the remote terminal, rather than the central office. We discuss this particular issue in our discussion of unbundled

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[1650] According to the BOC UNE Fact Report 2002, the largest providers of both Frame Relay and ATM services are AT&T, WorldCom, and Sprint. *See* BOC UNE Fact Report 2002 at II-24. In addition, Covad has deployed DSLAMs, routers, ATM equipment in nearly 2000 central offices – reaching 45% of the country in 35 states. *See* Letter from Florence Grasso, Covad, to Marlene H. Dortch, Secretary, FCC, CC Docket 01-338, Attach. at 2 (filed Nov. 7, 2002) (Covad Nov. 7, 2002 *Ex Parte* Letter); Covad Comments at 5; *see also Third Section 706 Report 2002*, 17 FCC Rcd at 2873-74, para. 70.

[1651] According to the BOC UNE Fact Report 2002, packet switches are much cheaper to deploy than circuit switches. *See* BOC UNE Fact Report 2002 at II-33. Because of extensive self-deployment by competitive LECs, we need not rely on the existence of a wholesale market for packet switching.

[1652] *Id.* at II-23.

[1653] *Id.*

[1654] *Id.* at II-23 and Table 11.

[1655] *Id.* at II-24 and Figure 5.

[1656] *Id.* at II-25.

[1657] *See UNE Remand Order*, 15 FCC Rcd at 3835-40, paras. 306-17; *see also* Covad Comments at 56 (discussing the costs associated with remote terminal collocation); *see also* ASCENT Comments at 40; *but see* Verizon Comments at n.289 (stating that "subsequent developments – principally, the nearly pervasive collocation of companies such as Covad, the availability of cageless and shared collocation, and the adoption of strict intervals for establishing collocation arrangements – demonstrate than any impairment no longer exists.").

[1658] *See* BOC UNE Fact Report 2002 at II-33 & n.127.

loops.[1659] Accordingly, there do not appear to be any barriers to deployment of packet switches that would cause us to conclude that requesting carriers are impaired with respect to packet switching. We therefore find that the evidence in the record confirms the Commission's findings in the *UNE Remand Order* that competitors continue to actively deploy their own packet switches, including routers and DSLAMs, and are not impaired without unbundled access to these facilities from incumbents.

540. Most parties that favor the unbundling of packet switching focus their arguments on unbundling the packet switching functionality as it exists in DLC systems that are deployed in the loop plant to provide multiplexing, switching, and routing functionalities between the customer premises and the central office.[1660] Our rules covering these situations are discussed in Part VI.A.4.a.(v), which addresses unbundled loops. In view of our analysis in that section, we decline to permit any limited exceptions to our decision not to unbundle packet switching.[1661]

541. Finally, because packet switching is used in the provision of broadband services, our decision not to unbundle stand-alone packet switching is also guided by the goals of, and our obligations under, section 706 of the 1996 Act.[1662] In order to ensure that both incumbent LECs and competitive LECs retain sufficient incentives to invest in and deploy broadband infrastructure, such as packet switches, we find that requiring no unbundling best serves our statutorily-required goal. Thus, we decline to require unbundling on a national basis for stand-alone packet switching because it is the type of equipment used in the delivery of broadband.

G. Signaling Networks

1. Background

542. In the *Triennial Review NPRM*, the Commission sought comment on whether it should modify its requirement that signaling be unbundled for competitive LECs.[1663] Signaling systems facilitate the routing of telephone calls between switches and are necessary components of providing circuit-based telecommunications services.[1664] The telecommunications network in the United States employs out-of-band signaling, meaning that the signaling network is

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[1659] *See infra* Part VI.A.4. (addressing unbundled loops).

[1660] *See*, *e.g.*, Sprint Comments at 40-45; WorldCom Comments at 113-19; Covad Comments at 54-65.

[1661] In addition, the rules we adopt for unbundled loops do not require incumbent LECs to provide unbundled access to any electronics or other equipment used to transmit packetized information over hybrid loops, such as xDSL-capable line cards installed in DLC systems or equipment used to provide passive optical networking capabilities to the mass market. *See infra* Part VI.A.4.a.(v).

[1662] 47 U.S.C. § 157 nt.

[1663] *Triennial Review NPRM*, 16 FCC Rcd at 22811, para. 65.

[1664] *Local Competition Order*, 11 FCC Rcd at 15723-24, para. 455.

physically separate from the carrier's voice network.[1665] Out-of-band signaling is performed using the SS7 protocol and requires access to an SS7 network.[1666]

543. In the *Local Competition Order*, the Commission determined that competitive LECs would be impaired without access to the incumbent LECs' unbundled signaling links and STPs.[1667] The Commission concluded that the alternative signaling methods available would provide a lower quality of service to the competitive carriers.[1668] In the *UNE Remand Order*, however, the Commission recognized that a competitive signaling market was emerging. Nevertheless, the Commission determined that these alternative networks could not match the incumbent LECs' signaling systems in terms of quality and ubiquity, and accordingly, ruled that signaling networks must continue to be unbundled.[1669]

2. Discussion

544. As explained above in our discussion of unbundled switching, in the instances in which incumbent LECs will be required to provide access to switching as a UNE, carriers purchasing the switching UNE must also gain access to incumbent LEC signaling.[1670] In all other cases, however, we determine that there are sufficient alternatives in the market available to incumbent LEC signaling networks and competitive LECs are no longer impaired without access to such networks as UNEs for all markets.[1671]

545. We conclude that, in the last several years, the market for signaling networks has matured. The record reflects that multiple alternative providers are available to provide rival signaling services to competitive LECs.[1672] Accordingly, we conclude that, as a general matter, competitive LECs are no longer impaired without access to the incumbent LECs' signaling networks as a UNE. In performing our impairment analysis, we consider whether barriers exist for a competitive LEC to serve customers through either deploying its own signaling network or

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[1665] *Id*.

[1666] SS7 networks use signaling links to transmit routing messages between switches and call-related databases (such as the Line Information Database, Toll Free Calling Database, and Advanced Intelligent Network Databases). These links enable a switch to send queries via the SS7 network to call-related databases, which return customer information or instructions for call routing to the switch. A typical SS7 network includes a signaling link that transmits signaling information in packets, from a local switch to a STP, which is a high-capacity packet switch. *UNE Remand Order*, 15 FCC Rcd at 3866, para. 380 n.746.

[1667] *Local Competition Order*, 11 FCC Rcd at 15740, para. 482.

[1668] *Id*.

[1669] *UNE Remand Order*, 15 FCC Rcd at 3873, para. 397.

[1670] *See supra* Part VI.D.

[1671] As stated below, this conclusion applies to both the mass market and the enterprise market.

[1672] *See, e.g.*, Sprint Comments at 49-50; Illuminet Comments at 3-5; Verizon Comments at 129-32.

by purchasing signaling from alternative providers to the incumbent LEC. We determine that no such barriers exist. A review of our record reveals that there are numerous competitive suppliers of signaling services, such as Illuminet, TSI, Southern New England Telephone, AT&T, WorldCom and Sprint,[1673] all of which are actively providing signaling services to competitive LECs on a commercial basis. For instance, Illuminet, which owns the largest signaling network in the United States that is unaffiliated with an incumbent LEC, has access to all of the LATAs of the BOCs and major independent LECs, operates 14 STP pairs, and provides signaling to competitive carriers on a national scope.[1674] Similarly, TSI provides a nationwide signaling service that offers SS7 access to and from nearly all LATAs within the United States.[1675] There are also regional SS7 options for competitive carriers. Sprint, for example, operates a regional SS7 network, which contains ten pairs of regional STPs and one national STP pair that serves Sprint customers in 18 states.[1676] ICG also offers a regional SS7 service, which is available from over thirty cities via ICG's regional STP access hub nodes.[1677] Indeed, there is evidence in the record that many competitive LECs are using alternative providers for most or all of their signaling needs.[1678] There is also evidence of self-deployment of SS7 network capabilities by competitive carriers, such as TimeWarner Telecom and NewSouth.[1679] We find, therefore, that for competitive carriers deploying their own switches, there are no barriers to obtaining signaling or self-provisioning signaling capabilities and we do not require incumbent LECs to continue offering access to signaling as a UNE under section 251(c)(3) of the Act.

546. Consistent with this analysis, we reject the claims of competitive carriers that signaling networks should remain available as UNEs.[1680] Even those carriers arguing for the

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[1673] *See* Illuminet Comments at 4 n.3; Verizon Comments at 129-33.

[1674] Illuminet Comments at 5.

[1675] *See* SBC Reply at 164; *see generally TSI Connections: Home* (visited Jan. 3, 2003) <http://www.tsiconnections.com>.

[1676] Sprint Reply, Attach. A, Joint Declaration of John D. Chapman and Jeffrey L. Leister (Sprint Chapman/Leister Reply Decl.) at para. 6.

[1677] *See* Verizon Comments at 131; *see generally Welcome to ICG Communications* (visited Jan. 3, 2003) <http://www.icgcom.com>.

[1678] For instance Illuminet states that it has more than 900 customers, including incumbent LECs, competitive LECs, interexchange carriers, CMRS providers and Internet service providers that are connected to its network by approximately 2700 access links and 950 signaling points. Illuminet Comments at 5. In addition, Sprint provides evidence that the vast majority of competitive LECs providing service in Sprint's local territories do not purchase UNE signaling from Sprint. Sprint Comments at 50.

[1679] Sprint Reply at 40; Verizon Comments at 132 (citing evidence that Time Warner and NewSouth have deployed their own signaling networks); *see also NewSouth Communications Completes SS7 Network Buildout* (Mar. 29, 2001) <www.newsouth.com/news/press_releases/a349.asp>.

[1680] *See, e.g.*, Allegiance Comments at 31-37; ALTS *et al*. Comments at 87-89; NuVox Comments at 106-07; *see also* Letter from Joseph O. Kahl, Director – Regulatory Affairs, RCN Telecom Services, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Jan. 23, 2003) (RCN Jan. 23, 2003 *Ex Parte* Letter).

retention of signaling as a UNE recognize that multiple alternative providers exist.[1681] These carriers argue, however, that because alternative providers utilize fewer STPs,[1682] instead of one STP in each LATA, such providers do not offer the same level of ubiquity and thus, are not a genuine substitute to the incumbent LECs' signaling.[1683] We find these arguments unpersuasive. Our impairment analysis does not require exact replication of the incumbent LECs' networks. Rather, when it is evident that there are alternative providers for a particular network element, the Commission must determine whether the alternative product or self-provisioning can be used in an economic manner to enter and stay in the market. This is clearly the case with signaling networks. The record reflects that many competitive LECs use either their own signaling networks or the networks of alternative providers to provide signaling for their customers.[1684] Although competitive SS7 providers state that their networks tend to have STPs in various strategically located points, while the BOCs have STPs in every LATA, such providers claim that it is unnecessary to have an STP in every LATA to ensure network redundancy and reliability.[1685] Moreover, there is evidence in the record that the incumbent LEC signaling facilities are being modified more closely to resemble the networks of the alternative providers. For instance, BellSouth has reduced the number of STPs it has deployed by 50 percent and no longer has an STP in every LATA.[1686]

547. We find the appropriate level of granularity for our analysis to be at the national level. Two of the alternative signaling networks discussed above are national networks that competitive LECs can utilize throughout the country. Both the Illuminet and TSI networks are designed with pairs of STPs strategically located throughout the country, in order to offer competitive carriers access to their SS7 networks nationwide.[1687] Other SS7 providers, such as ICG and Sprint, have fewer STP pairs and offer a more regional SS7 service—but still a service

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[1681] For instance, Allegiance admits that Illuminet, TSI, Southern New England Telephone, AT&T, WorldCom and Sprint all provide signaling services that bear a resemblance to unbundled incumbent LEC SS7. Allegiance Comments at 31.

[1682] STPs are packet switches that provide access to the SS7 network and route SS7 messages among service switching points and service control points. These are the traffic controllers of the SS7 network and typically consist of highly reliable computers running special software. Allegiance Comments at 32 n.49. We readopt here the *UNE Remand Order*'s conclusion that when a requesting telecommunications carrier purchases unbundled local circuit switching from an incumbent LEC, the incumbent LEC must allow the competitive LEC to use its service control point element in the same manner, and via the same signaling links, as the incumbent LEC itself. *See UNE Remand Order*, 15 FCC Rcd at 3878, para. 410.

[1683] *See, e.g.*, Allegiance Comments at 32; ALTS *et al*. Comments at 88.

[1684] *See* Illuminet Comments at 5; Verizon Comments at 129-33.

[1685] For instance, Sprint operates eleven STPs that serve Sprint's customers in eighteen states. *See, e.g.*, Sprint Reply; *see also* Sprint Chapman/Leister Reply Decl. at paras. 3, 6-7.

[1686] BellSouth Comments at 103.

[1687] *See, e.g.*, Illuminet Comments at 4; SBC Reply at 164.

that spans numerous states and markets.[1688] Thus, the availability of alternatives does not vary significantly from region to region. Indeed, the main distinction between signaling offered in different geographic areas is the identity of the incumbent LEC providing signaling, rather than the availability of alternative providers. Moreover, our conclusion applies equally to the mass market and the enterprise market. Signaling networks are multistate in scope and the feasibility of using alternative providers is linked to whether a carrier has deployed its own switches, rather than the types of customers the carrier serves.[1689] Accordingly, as we stated above, in the instances that carriers purchase switching as a UNE under the terms established in this Order they will continue to obtain access to the incumbent LECs' signaling networks. For carriers deploying their own switches, the signaling networks are accessed via the switch, therefore, the feasibility of using alternative signaling providers would not be different whether the carrier serves enterprise or mass market customers.

548. Finally, we note that although we are no longer requiring incumbent LECs, pursuant to section 251(c)(3), to provide unbundled access to their signaling networks, there is a clear obligation on the incumbent LECs, pursuant to sections 251(a), 251(c)(2) and our rules implementing these requirements, to provide for interconnection between their signaling networks and the signaling networks of alternative providers.[1690] Based on the evidence in the record that third party providers of signaling are currently interconnected with the incumbent LEC signaling networks, we conclude that such interconnection is clearly technically feasible and that nothing in this Order should be interpreted as altering those interconnection obligations.[1691]

H. Call-Related Databases

1. Background

549. Call-related databases are databases that are used in signaling networks for billing and collection or for the transmission, routing or other provision of telecommunications services.[1692] We have identified several specific databases as covered by our call-related

[1688] *See* Sprint Reply at 40; SBC Reply at 164.

[1689] Switch technology requires each local switch to connect to a single STP. Therefore, a carrier that has deployed its own switch may link its switch to a signaling network of its choosing. *See UNE Remand Order*, 15 FCC Rcd at 3868-69, paras. 367-87.

[1690] 47 U.S.C. §§ 251(a), 251(c)(2).

[1691] For example, Sprint's SS7 network is interconnected with a variety of signaling providers including: AT&T, WorldCom, Transaction Network Services, SNET, Illuminet, Qwest, Bell South, Verizon, SBC, and AT&T Wireless. Sprint Chapman/Leister Reply Decl. at para. 5.

[1692] These are not those databases and systems covered by the Commission's operations support systems (OSS) requirements, discussed in Part VI.I. *infra*. *See UNE Remand Order*, 15 FCC Rcd at 3875, para. 403.

database requirements: (i) LIDB;[1693] (ii) CNAM;[1694] (iii) Toll Free Calling;[1695] (iv) LNP;[1696] (v) AIN;[1697] and (vi) E911.[1698] Parties have identified in the record no additional databases covered by the *UNE Remand Order's* definition for call-related databases.

550. In the *UNE Remand Order*, the Commission found that competitors--even those that deployed their own switching equipment--would be impaired without access to the incumbent LECs' call-related databases.[1699] Moreover, the Commission noted that its analysis of call-related databases is intertwined with its analysis of signaling, because signaling is necessary to obtain access to certain call-related databases.[1700]

2. Discussion

551. We find that competitive carriers that deploy their own switches are not impaired in any market without access to incumbent LEC call-related databases, with the exception of the 911 and E911 databases as discussed below.[1701] For carriers that deploy their own switches, there is evidence in the record that, along with signaling, there are a substantial number of competitive suppliers of call-related databases that competitive LECs can reliably utilize as an alternative to the incumbent LEC's services. Moreover, because competitive carriers access call-related databases through signaling networks, it follows that since we found that competitive carriers

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[1693] The Line Information Database or "LIDB" contains all valid telephone numbers and calling card information in a specific region (*i.e.*, incumbent LEC in-region territory). NEWTON'S TELECOM DICTIONARY 429 (18th ed.2002). Access to the LIDB supports carrier provision of such services as Originating Line Number Screening, Calling Card Validation, Billing Number Screening, Calling Card Fraud and Public Telephone Check. These services are provided in conjunction with local exchange, toll and other telecommunications services.

[1694] The Caller ID with Name database or "CNAM" allows carriers to provide Caller ID and other CLASS services. *See UNE Remand Order*, 15 FCC Rcd at 3876, para. 406.

[1695] Databases at the core of all toll free number services (*i.e.*, 800, 888) are administered by an independent number administrator. *See Toll Free Service Access Codes*, CC Docket No. 95-155, Fifth Report and Order, 15 FCC Rcd 11939, 11948-49, para. 25 (2000) (*Toll Free Order*).

[1696] Local Number Portability databases are used to facilitate the porting of numbers between local exchange carriers and are deployed through a system of multiple regional databases. Each regional database is managed by the local number portability administrator (LNPA). *See Telephone Number Portability*, CC Docket No. 95-116, Second Report and Order, 12 FCC Rcd 12281, 12296, para. 21 (1997) (*Number Portability Order*).

[1697] The Advanced Intelligent Network (AIN) uses distributed intelligence in centralized databases to control call processing and manage network information, eliminating the need for those functions to be performed at every switch. *UNE Remand Order*, 15 FCC Rcd at 3875, para. 404.

[1698] 911 and E911 databases are used to support the provision of emergency 911 services. *UNE Remand Order*, 15 FCC Rcd at 3876, para. 406.

[1699] *Id*. at 3879, para. 411.

[1700] *Id*.

[1701] As stated below, this conclusion applies to both the mass market and the enterprise market.

have alternative providers available and are not impaired without access to unbundled signaling, competitive carriers are also not impaired without access to call-related databases. In such instances where switching remains a UNE, however, competitive carriers purchasing the switching UNE will have access to signaling and the call-related databases that the signaling networks permit carriers to access.[1702]

552. As with signaling, we find the appropriate level of granularity for our analysis to be at the national level. The alternative call-related database networks discussed below are national and regional networks that competitive LECs would be able to use throughout the country.[1703] Because these networks are multistate in scope the availability of alternatives does not vary significantly from market to market. Indeed, the main distinction between call-related databases offered in different geographic areas is the identity of the incumbent LEC providing access to the databases, rather than the availability of alternative providers. In addition, our conclusion applies equally to the mass market and the enterprise market. Call-related databases are accessed through signaling networks, which are national in scope and the feasibility of using alternative providers is linked to whether a carrier has deployed its own switches, rather than the types of customers the carrier serves.[1704] Accordingly, as we stated above, carriers that purchase switching as a UNE will also obtain unbundled access to the incumbent LEC's call-related databases. For carriers deploying their own switches, the call-related databases are accessed through signaling networks, which are accessed via the switch, therefore, the feasibility of using alternative providers would not be different whether the carrier serves mass market or enterprise customers.

553. In performing our impairment analysis, we consider whether competitive LECs can serve customers through either deploying their own call-related databases or by purchasing call-related databases from providers other than the incumbent LEC. The record in this proceeding reveals that there are a number of competitive suppliers providing call-related database services that are comparable to the functionality of unbundled access, and these suppliers are actively providing such services to competitive LECs on a commercial basis.[1705] For example, Sprint maintains national database platforms, including Toll Free Calling, CNAM, LIDB and LNP.[1706] Illuminet provides its signaling customers with access to call-related databases, including Toll Free Calling, LNP, CNAM, and LIDB.[1707] Alternative providers such as Tekelec also provide access to AIN databases that competitive LECs can utilize to control call

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[1702] *See supra* Part V.D.

[1703] With regard to the 911 and E911 databases, there is no evidence of alternative providers in any part of the country. Accordingly, the granularity of our impairment analysis is at the national level as well.

[1704] *UNE Remand Order*, 15 FCC Rcd at 3878, para. 410.

[1705] *See* Sprint Comments at 50-51; Verizon Comments at 133-36.

[1706] Sprint Chapman/Leister Reply Decl. at para. 9.

[1707] Illuminet Comments at 5-7.

processing and manage network information.[1708] All of these providers offer competitive LECs call-related database products as an alternative to the incumbent LECs' services.[1709] Moreover, certain competitive LECs have self-deployed their own call-related databases.[1710]

554. We therefore reject the general claims of commenters that they are impaired without access to the incumbent LECs' call-related databases.[1711] Specifically, a number of carriers argue that they are impaired without access to the incumbent LECs' CNAM and LIDB databases. Although such carriers recognize that alternative providers are available for these databases, they contend that third-party CNAM and LIDB databases are inferior to those of the incumbent LECs.[1712] We find these arguments for impairment to be unpersuasive. When it is evident that there are alternative providers for a particular network element, the question is not whether the alternatives are an exact replica of the element offered by the incumbent LEC, but whether the alternative products or self-provisioning are reliable products that can be used in an economically sound manner to enter and stay in the market. In this instance, it is clear that carriers can either self-provision or use alternative providers to obtain CNAM and LIDB database services. Indeed, WorldCom has constructed its own CNAM database that it accesses using its own signaling network.[1713] Furthermore, there is evidence in the record that many competitive carriers are using alternative providers to obtain CNAM and LIDB database services, and commenters provide no persuasive evidence as to why CNAM and LIDB databases offered by such vendors are insufficient alternatives to the incumbent LEC.[1714] For instance, Illuminet claims that it offers access, through its SS7 network, to all of the LIDB databases in the United States for various purposes, and also manages and operates its own LIDB database.[1715] Illuminet also offers a CNAM database and a CNAM delivery access and transport service that provides SS7 connectivity to all available CNAM databases for nationwide name delivery for wireline and wireless carriers.[1716] In addition, Targus Information Services offers a Caller Name Express services that provides nationwide calling name delivery with over 140 million names,

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[1708] Verizon Comments at 134-35.

[1709] *See, e.g.*, Illuminet Comments at 5-7; Sprint Comments at 39-40.

[1710] For instance, WorldCom has constructed its own CNAM database. WorldCom Reply at 164. In addition, according to Verizon, Time Warner Telecom has, or is in the process of constructing, a LNP database in addition to its own SS7 network. Verizon Comments at 132 n.475.

[1711] *See, e.g.*, AT&T Comments at 239-40; CompTel Comments at 86; ALTS *et al*. Comments at 90; WorldCom Comments at 122-27; *see also* AT&T Jan. 10, 2003 *Ex Parte* Letter.

[1712] *See, e.g.*, ALTS *et al*. Comments at 90.

[1713] WorldCom Reply at 165.

[1714] For instance, WorldCom claims that it would be unable to duplicate the LIDB database, however, it fails to address the alternative providers of LIDB that are available. WorldCom Reply at 165.

[1715] Illuminet Comments at 6-7.

[1716] *Id*., App. B at 2.

from a database accessible through SS7.[1717] We find, therefore, that competing carriers are not impaired without access to incumbent LEC CNAM and LIDB databases.

555. We similarly find that carriers are not impaired without access to the Toll Free Calling and LNP databases. Like CNAM and LIDB databases, there are third-party vendors available to provide competitive carriers access to Toll Free Calling and LNP databases. For instance, Illuminet's SS7 network provides access to all toll free numbers in the country for call-routing.[1718] Illuminet also provides competitive carriers extensive local number portability services, including service order administration and network transport routing of all queries to nationwide LNP databases.[1719] Sprint also provides access to Toll Free Calling and LNP databases to customers of its SS7 services.[1720] Moreover, we note that competitive carriers have not claimed that these third-party alternatives to the incumbent LEC's Toll Free Calling and LNP databases are inferior to those offered by the incumbent LECs.

556. With regard to AIN databases, in the *UNE Remand Order*, the Commission determined that incumbent LECs were required to provide unbundled access to AIN platform and architecture, but concluded that the AIN service software was proprietary and not "necessary" for competitive LECs to gain unbundled access under section 251(d)(2)(A).[1721] Like the call-related databases discussed above, we conclude that the market for AIN platform and architecture has matured since the Commission adopted the *UNE Remand Order* and we no longer find that competitive LECs are impaired without unbundled access to those databases. For instance, Illuminet provides carriers access to AIN services that permit subscribers to manage incoming and outgoing calls through a web interface.[1722] In addition, the record indicates that Tekelec provides an AIN service center, which includes a service creation environment that "provides complete local visibility and control over network services, allowing telecommunications providers to rapidly bring new services to market."[1723] We also note that parties that supported unbundling did not provide specific information rebutting the evidence that these alternative offerings can be used by carriers in an economically sound manner to enter and stay in the market.[1724]

[1717] Sprint Comments at 51.

[1718] Illuminet Comments at 7.

[1719] *Id*. at 6.

[1720] Sprint Chapman/Leister Reply Decl. at para. 8.

[1721] *UNE Remand Order*, 15 FCC Rcd at 3875, 3882, paras. 402, 419.

[1722] Illuminet Comments, App. B at 2.

[1723] *See* Verizon Comments at 134-35 n.490.

[1724] Consistent with our findings regarding the AIN databases, we dismiss as moot Low Tech Designs' Petition for Reconsideration of several aspects of the *UNE Remand Order*. Because we no longer require incumbent LECs to unbundle access to the AIN databases for carriers not using the incumbent LEC's switching capabilities, it is (continued….)

557. We conclude that competitive carriers continue to be impaired on a national basis without access to the 911 and E911 databases. Therefore, access to such databases must continue to be unbundled. Significantly, we note that no commenter has argued otherwise. Contrary to the call-related databases discussed above, no commenter in this proceeding has provided evidence of alternative providers of 911 or E911 databases that competitive carriers could utilize or of carriers self-provisioning their own services. Moreover, because of the unique nature of 911 and E911 services and the public safety issues inherent in ensuring nondiscriminatory access to such databases, we conclude that without evidence of alternative providers or the ability to self-deploy, competitive carriers must continue to obtain unbundled access to those databases to ensure that their customers have access to emergency services.

558. We reject competitive LECs' assertions that, we should require in this proceeding unbundled access to the incumbent LEC databases for bulk transfer of information for competitive carriers to maintain their own call-related databases.[1725] Specifically, competitive LECs claim that they should be able to access the CNAM database via batch download, which would allow them to obtain a copy and thus, maintain their own CNAM databases.[1726] We conclude that this issue is more properly addressed pursuant to the dialing parity requirements under section 251(b)(3),[1727] rather than our impairment analysis under section 251(d)(2). Our impairment analysis is necessarily focused on the appropriate access to incumbent LEC facilities that competitive LECs are unable to self-provide or obtain from other sources, and as explained above, there is persuasive evidence that competitive LECs have alternative sources available to obtain access to call-related databases generally, and the CNAM database specifically. To the extent that competition may lead to inability to obtain complete CNAM databases that could impede the continued availability of nondiscriminatory dialing parity for all providers of local exchange services, that is an issue that ultimately will impact incumbent LECs as significantly as competitive LECs and therefore is more appropriate for treatment under the requirements of section 251(b)(3) than in this docket.[1728]

(Continued from previous page)

unnecessary to consider modifying the definition or the manner in which those carriers would be able to obtain access to those databases. *See* Low Tech Designs Petition for Reconsideration, CC Docket No. 96-98 (filed Feb. 15, 2000).

[1725] *See, e.g.*, WorldCom Comments at 122-27.

[1726] WorldCom Comments at 125.

[1727] 47 U.S.C. § 251(b)(3). All local exchange carriers have the duty to provide nondiscriminatory access to telephone numbers, operator services, directory assistance, and directory listing, with no unreasonable dialing delays.

[1728] *See In the Matters of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, Area Code Relief Plan For Dallas And Houston, Ordered By The Public Utility Commission Of Texas, Administration of the North American Numbering Plan*, CC Docket Nos. 96-98, 95-185, 92-237, NSD File No. 96-8, Second Report and Order and Memorandum Opinion and Order, 11 FCC Rcd 19392, 19446, para. 106 (1996) (*Local Competition Second Report and Order*).

559. We also dismiss as moot WorldCom's Petition for Declaratory Ruling requesting Commission confirmation that requesting carriers are entitled to access LIDB data at cost-based rates when they use such data to provide interexchange and exchange access service.[1729] Because, as explained above, we conclude that competitive carriers are not impaired without access to the LIDB database as a UNE, it is unnecessary for us to determine whether use restrictions should be applied.[1730]

560. We also reject the arguments of some parties that we should require incumbent LECs to provide unbundled access to Operator Services and Directory Assistance (OS/DA), contrary to the Commission's finding that there was no impairment in the *UNE Remand Order*.[1731] Moreover, we deny the Petition for Reconsideration of RCN Telecom Services arguing that the Commission should reconsider its prior decision to remove OS/DA from the UNE list.[1732] As the Commission concluded in the *UNE Remand Order*, there are multiple alternative providers of OS/DA that are available to competitive carriers and offer a level of quality similar to that of the incumbent LECs' services.[1733] The parties requesting the Commission to unbundle the databases underlying these services fail to provide evidence that the alternative providers cited in the *UNE Remand Order* no longer make these elements available. Instead, these parties claim that the alternative sources of OS/DA fail to provide the same level of quality as the incumbent LEC services.[1734] As we stated above in the signaling section, the Commission need not conclude that alternative providers are an exact substitute for the incumbent LEC in order to find no impairment. We have no evidence to suggest that anything has changed since the Commission's findings in the *UNE Remand Order* that would impair the ability of competitive LECs to obtain alternative sources for OS/DA. Furthermore, for the same reasons in the *UNE Remand Order*, we find that in order to ensure that competitive carriers have access to OS/DA, in those circumstances where switching is unbundled, we require incumbent

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[1729] Petition of WorldCom for a Declaratory Ruling that ILECs are Prohibited from Imposing Use Restrictions on UNEs such as LIDB, CC Docket No. 01-338 (filed Aug. 8, 2002).

[1730] However, for general discussion of the types of services competitive carriers may use UNEs to provide *see supra* Part V.B.2.c.

[1731] *See, e.g.*, ALTS *et al*. Comments at 90-95; WorldCom Comments at 127-29.

[1732] *See* RCN Telecom Services Petition for Reconsideration, CC Docket No. 96-98 (filed Feb. 17, 2000) (RCN Feb. 17, 2000 Petition for Reconsideration). We also deny MCI WorldCom's Petition for Reconsideration to the extent the Petition requests that OS/DA continue to be available as a UNE. *See* MCI WorldCom Feb. 17, 2000 Petition for Reconsideration at 18-19.

[1733] *UNE Remand Order*, 15 FCC Rcd at 3894, paras. 447-48.

[1734] *See* ALTS *et al*. Comments at 92. Moreover, RCN argues that operator services should remain a UNE because consumers sometimes rely on operators to route calls to PSAPs in emergency situations. RCN Petition for Reconsideration at 3. As we concluded in the *UNE Remand Order*, there are only limited instances where an operator would connect a consumer with a PSAP and there is no persuasive evidence that incumbent LEC call centers would be better able to determine the correct PSAP than alternative providers, especially if the incumbent LEC utilizes remote call centers. *UNE Remand Order*, 15 FCC Rcd at 3901, para. 460.

LECs to provide unbundled access to competitive carriers purchasing the switching UNE, if the incumbent LEC does not provide customized routing necessary to use alternative providers.[1735] Lastly, we note, as the Commission did in the *UNE Remand Order*, that incumbent LECs continue to remain obligated pursuant to section 251(b)(3) to provide nondiscriminatory access to OS/DA.[1736]

I. OSS Functions

1. Background

561. In our previous orders, we defined OSS as consisting of five functions: pre-ordering, ordering, provisioning, maintenance and repair, and billing functions supported by an incumbent LEC's databases and information.[1737] These functions are essential for carriers to serve mass market and enterprise customers. OSS includes manual, computerized, and automated systems, together with associated business processes and the data maintained and kept current in those systems.[1738] In the *UNE Remand Order*, we clarified that the pre-ordering OSS functions include access to loop qualification information.[1739] Based on this definition, in both the *Local Competition Order* and the *UNE Remand Order*, the Commission concluded that requesting carriers are impaired without access to the incumbent LEC's OSS as a UNE, and required incumbent LECs to provide nondiscriminatory access to all OSS functions.[1740] The Commission noted that the incumbent LECs' OSS provides access to vital information that is not available from third parties and is critical to the ability of competitive LECs to offer local exchange and exchange access service.[1741] In the *Triennial Review NPRM*, the Commission

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[1735] Moreover, we grant in part the Petitions for Clarification of MCI WorldCom and AT&T to the extent they request the Commission to clarify that such customized routing must be provided in a manner that allows competitive LECs to efficiently access either a third party's OS/DA platform or their own OS/DA Platform. *See* AT&T Feb. 17, 2000 Petition for Reconsideration at 20-24; MCI WorldCom Feb. 17, 2000 Petition for Clarification at 16-20; *see also* LSSI Reply at 5 (arguing that incumbent LECs have not yet made sufficient customized routing available).

[1736] *See UNE Remand Order*, 15 FCC Rcd at 3903, para. 464.

[1737] *See Local Competition Order*, 11 FCC Rcd at 15764, para. 518; *UNE Remand Order,* 15 FCC Rcd at 3884, para. 425. The Commission determined that incumbent LECs must make these five functions of OSS available to competitors on an unbundled basis.

[1738] *UNE Remand Order*, 15 FCC Rcd at 3884, para. 425.

[1739] Loop qualification information identifies the physical attributes of the loop plant (such as loop length, the presence of load coils and bridge taps, and the presence and type of Digital Loop Carrier) that enable carriers to determine whether the loop is capable of supporting xDSL and other advanced technologies. *Id*. at 3885, para. 426.

[1740] *Local Competition Order*, 11 FCC Rcd at 15763, para. 516; *UNE Remand Order*, 15 FCC Rcd at 3887, para. 433.

[1741] *See UNE Remand Order*, 15 FCC Rcd at 3887, para. 433.

sought comment on whether we should retain these unbundling requirements in light of any changed circumstances that exist in the market.[1742]

2. Discussion

562. We adopt again the same definition of OSS as in our prior orders, including statements about loop qualification.[1743] No commenters have put forth alternative definitions or modifications to our existing definition. We further find that competitive LECs providing qualifying services continue to be impaired on a national basis without access to OSS. Accordingly, we require incumbent LECs to continue to provide unbundled access to OSS. This requirement includes an ongoing obligation on the incumbent LECs to make modifications to existing OSS as necessary to offer competitive carriers nondiscriminatory access and to ensure that the incumbent LEC complies with all of its network element, resale and interconnection obligations in a nondiscriminatory manner—including any new obligations established in this Order.[1744] We note that even the incumbent LECs have not argued against OSS continuing to be available as a UNE.[1745]

563. Commenters in this proceeding generally agree that OSS functions must remain available to competitive carriers as UNEs.[1746] Competitive LECs contend that no substitutable alternative market for OSS has developed because the incumbent LECs retain access to exclusive information and functionalities required to provide OSS services.[1747] Indeed, competitive LECs assert that access to all five OSS functions the Commission has identified in addition to the business processes associated with the change management procedures are essential to ensure that competitive LECs are not impaired without access to these functions.[1748] We agree with these commenters and conclude that, to the extent a competitive LEC is providing a qualifying service it is entitled to access the incumbent LEC's OSS to offer that service.

564. In reaching this conclusion, we find that the systems, databases, and personnel that the incumbent LEC uses to provide OSS functions represent an extensive infrastructure that would be difficult, if not impossible, for competitors to duplicate. Indeed, there is no evidence in the record that any competitive LEC has been able to successfully self-provision OSS functions,

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[1742] *Triennial Review NPRM*, 16 FCC Rcd at 22811, para. 64.

[1743] *See UNE Remand Order*, 15 FCC Rcd at 3884-87, paras 425-31.

[1744] *See infra* Parts VI.B.1.d.(i) and VI.B.5. In these sections, we note modifications that incumbent LECs must make to their OSS in order to comply with unbundling obligations specified in this Order.

[1745] *See, e.g.*, SBC Reply at 167.

[1746] *See, e.g.*, ALTS *et al*. Comments at 77-80; Sprint Comments at 51-52; WorldCom Comments at 129-33; AT&T Comments at 240-41; Allegiance Comments at 37-38; Covad Comments at 74-77.

[1747] *See* Allegiance Comments at 37-38; Covad Comment at 75; ALTS *et al*. Comments at 78-79.

[1748] WorldCom Comments at 131.

and there is no evidence of any alternative providers available. Accordingly, because these systems, databases and personnel are under the exclusive control of the incumbent LEC and are necessary for competitors effectively to access network elements, resell incumbent LEC services and interconnect with the incumbent LEC, we find that competitive LECs are impaired without access to incumbent LECs' OSS.

565. Although the specific systems, databases and personnel used to provide OSS functions may vary by incumbent LEC and by state, the OSS functions as defined apply universally for all incumbent LECs and there is no evidence in the record that would suggest a more geographically disaggregated approach to our OSS unbundling requirement. We therefore adopt an unbundling requirement for OSS functions on a national basis.

566. However, we recognize the wide variety of systems and databases that comprise the OSS of incumbent LECs, and the important role that state commissions have played in facilitating access to incumbent LEC OSS through the section 271 process and other state proceedings. Although our determination that OSS for qualifying services must continue to be unbundled is a national rule, we expect that states will continue their important role in working with the incumbent LECs and competitive LECs to ensure that competitors obtain necessary access to the particular incumbent LEC OSS systems in each state for the qualifying services.[1749] In addition, our conclusions apply equally to the mass market and the enterprise market. Because there are no alternative OSS providers and competitive LECs are impaired without access to OSS, whether the customers are mass market or enterprise, we find that there is no reason to distinguish between such markets in establishing the availability of OSS as a UNE.

567. SBC, however, urges the Commission to clarify that incumbent LECs do not need to provide direct access to back office systems.[1750] SBC suggests that, under the approach taken in the *UNE Remand Order*, an incumbent LEC may satisfy its obligations with respect to loop qualification information by providing carriers with the same underlying information that it has in any of its own databases or internal records without offering direct access to those records.[1751] We agree, and note that this conclusion was recently reflected in our *Qwest 9-State Order*, in

[1749] Along those lines, we reject Illuminet's request that we require all incumbent LECs to standardize their OSS functionalities and specifically their pre-ordering processes. Illuminet Comments at 9. The Act does not require nationwide uniformity among all incumbent LECs. We also note that in most states, BOCs' OSS processes have already been subject to third-party testing and state commission review, and we decline to require the substantial modifications to such systems necessary to achieve uniformity.

[1750] SBC claims that back office systems may contain proprietary information about other competitive LEC facilities, and other highly sensitive information. SBC suggests that such information is not "necessary" for competitive carriers to compete, and thus suggests that competitive LECs should not be allowed direct access to systems and databases containing such information. *See* SBC Reply at 168.

[1751] *Id*. at 168-69.

which we held that Qwest was not required to permit competitive LECs direct access to its back office loop qualification database.[1752]

568. Covad also argues that incumbent LECs should modify their OSS to provide certain additional information related to certain facilities and network elements, consistent with its view of the facilities and network elements it is entitled to access under section 251.[1753] For example, Covad asks that we expressly mandate access to a wide range of information related to remote terminal feature availability.[1754] Because we do not adopt Covad's approach to unbundling, we recognize that Covad may not require all of the information it describes in its Comments. We thus decline to reach the level of detail requested by Covad or change our approach to OSS and loop qualification information, but note that Covad remains entitled on a going-forward basis to nondiscriminatory access to OSS as defined herein.

VII. SCOPE OF UNBUNDLING OBLIGATIONS

A. Combinations of Network Elements

1. Background

569. In the *Local Competition Order*, the Commission adopted rules that prohibited incumbent LECs from separating network elements that ordinarily are combined.[1755] In addition, the Commission adopted rules requiring incumbent LECs to provide combinations of UNEs when requested by competitive LECs and to perform the necessary functions to make such combinations available.[1756] After various appeals before the Eighth Circuit, the Supreme Court addressed both requirements. First, in *Iowa Utilities Board*, the Court reinstated the Commission's rules prohibiting incumbent LECs from separating network elements ordinarily combined.[1757] Second, in *Verizon*, the Court reversed the vacatur of sections 51.315(c) through 51.315(f), which required incumbent LECs to provide UNE combinations and perform the necessary functions involved with that process.[1758] Specifically, *Verizon* concluded that the

[1752] *Qwest 9-State 271 Order*, 17 FCC Rcd at 26317, para. 29. In addition, to the extent that Bell Atlantic requested the same clarification, we grant their request. *See* Verizon Feb. 17, 2000 Petition for Reconsideration at 15-17.

[1753] Covad Comments at 76-77. We therefore deny WorldCom's request to adopt additional rules stating specific characteristics of the local loop plant that incumbent LECs must disclose to requesting carriers. MCI WorldCom Feb. 17, 2000 Petition for Reconsideration at 23-24.

[1754] Covad Comments at 76-77. (arguing that it is entitled to information about the software versions and channel units used in each remote terminal).

[1755] *Local Competition Order*, 11 FCC Rcd at 15646-47, paras. 292-93; 47 C.F.R. § 51.315(b).

[1756] *Local Competition Order*, 11 FCC Rcd at 15647-48, paras. 294-97.

[1757] *Iowa Utils. Bd.*, 525 U.S. at 391-96.

[1758] The Eighth Circuit subsequently reinstated the rules. *Iowa Utils. Bd. v. FCC*, 301 F.3d 957.

Commission's rules reflected a reasonable reading of section 251(c)(3) intended to remove practical barriers to competitive entry into the local exchange market.[1759]

570. In the *UNE Remand Order*, the Commission required incumbent LECs to provide EELs (*i.e.*, a particular combination of network elements) pursuant to section 51.315(b) of the Commission's rules, which prohibits incumbent LECs from separating currently combined network elements before providing them to requesting carriers.[1760] At the same time, the Commission recognized and explored significant legal and policy issues surrounding the use of EELs and the Commission's universal service and access charge rules. Shortly after the release of the *UNE Remand Order*, the Commission issued the *Supplemental Order* in which it established an interim usage requirement related to EELs while considering the legal and policy issues implicated by making EELs available. In particular, the Commission determined that competitive LECs must provide a "significant amount of local exchange service" to a particular customer in order to use an EEL.[1761] In the *Supplemental Order Clarification*, the Commission clarified the "significant amount of local usage" requirement and established three safe harbors to define the term.[1762] The Commission also adopted the commingling restriction, which prevented a requesting carrier from connecting a loop or EEL to tariffed access services used as interoffice transmission facilities.[1763] In October 2002, the D.C. Circuit resolved CompTel's appeal of the *Supplemental Order Clarification*. In *CompTel*, the court found that CompTel had not demonstrated that the *Supplemental Order Clarification*'s commingling restriction was arbitrary and capricious.[1764]

571. In the *Notice*, the Commission sought comment on issues related to the EEL, which is a UNE combination consisting of an unbundled loop and dedicated transport and may sometimes include additional electronics (*e.g.*, multiplexing equipment). In particular, the Commission sought comment on whether offering EELs is an appropriate precondition to the switching carve-out adopted in the *UNE Remand Order*, whether the availability of EELs serves to address impairment in the absence of unbundled switching, and whether certain EELs-related issues (*e.g.*, use restrictions, commingling) warrant revision in light of industry developments

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[1759] *Verizon*, 535 U.S. at 531-38.

[1760] The Commission explained that because incumbent LECs may not separate loop and transport elements that are currently combined and purchased through their special access tariffs, competitive LECs are entitled to obtain these existing loop-transport combinations at UNE prices. *UNE Remand Order*, 15 RCC Rcd at 3909, para. 480.

[1761] *Supplemental Order*, 15 FCC Rcd at 1761, para. 4.

[1762] *Supplemental Order Clarification*, 15 FCC Rcd at 9598-9600, para. 22.

[1763] *Id.* at 9598-9600, 9602, paras. 22, 28; s*ee, e.g.*, *Net2000 Communications, Inc. v. Verizon - Washington, D.C., Inc*., File No. EB-00-018, Memorandum Opinion and Order, 17 FCC Rcd 1150, 1159, paras. 29-30 (2001).

[1764] *CompTel*, 309 F.3d at 17-18.

since the release of the *UNE Remand Order*.[1765] In addition, the Commission incorporated the record related to these issues from earlier proceedings.[1766]

2. Discussion

572. In this section, we address our rules for UNE combinations, specific issues pertaining to EELs, the ability of requesting carriers to commingle UNEs and UNE combinations with other wholesale services, issues surrounding conversions of access services to UNEs.

a. New Combinations of Unbundled Network Elements

573. We reaffirm our existing rules regarding UNE combinations.[1767] Our rules require incumbent LECs to provide UNE combinations upon request and prohibit incumbent LECs from separating UNE combinations that are ordinarily combined except upon request. Section 251(c)(3) requires incumbent LECs to "provide unbundled network elements in a manner that allows requesting carriers to combine such elements in order to provide" a telecommunications service.[1768] As noted in the Supreme Court's *Verizon* decision, the statute does not specify which party must perform the functions necessary to effectuate UNE combinations.[1769] Based on the nondiscrimination requirements of section 251(c)(3),[1770] and because incumbent LECs are in the best position to perform the functions necessary to provide UNE combinations (and to separate UNE combinations upon request) through their control of the elements of their networks that are unbundled, our rules require incumbent LECs to provide UNE combinations upon request. The record does not indicate that these recently-reinstated rules are problematic.

574. We reiterate the conditions that apply to the duty of incumbent LECs to provide UNE combinations upon request, *i.e.*, that such a combination must be technically feasible and must not undermine the ability of other carriers to access UNEs or interconnect with the incumbent LEC's network.[1771] As noted in the *Verizon* decision, the limitation on technical

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[1765] *Triennial Review NPRM*, 16 FCC Rcd at 22807-08, 22814-15, paras. 57, 60, 73.

[1766] *Id*. at 22814, para. 72.

[1767] 47 C.F.R. § 51.315.

[1768] 47 U.S.C. § 251(c)(3); *Local Competition Order*, 11 FCC Rcd at 15646-48, paras. 292-97; s*ee* LDMI Comments at 11; NewSouth Comments at 42-46; Norlight Comments at 5-7; OpenBand Comments at 10-12; Sprint Comments at 26-27; UNE-P Coalition Comments at 35-38; Letter from Joan Marsh, Director, AT&T Corp. to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2, 6-7 (filed Dec. 23, 2002) (AT&T Dec. 23, 2002 EELs and New Combinations *Ex Parte* Letter).

[1769] *Verizon*, 535 U.S. at 534 (reading section 251(c)(3) as "leaving open who should do the work of combination.").

[1770] *Id*. at 537-38 (noting the statutory requirement of nondiscriminatory access); *Iowa Utils. Bd.*, 525 U.S. at 394-95 (discussing section 251(c)(3) nondiscrimination requirements).

[1771] 47 C.F.R. § 51.315(c).

feasibility is meant to preserve the reliability and security of the incumbent LEC's network, and a UNE combination is "not technically feasible if it impedes an incumbent carrier's ability to retain responsibility for the management, control, and performance of its own network."[1772] Incumbent LECs must prove to state commissions that a request to combine UNEs in a particular manner is not technically feasible or would undermine the ability of other carriers to obtain access to UNEs or to interconnect with the incumbent LEC's network.[1773]

b. EELs

575. As noted above, our rules currently require incumbent LECs to make UNE combinations, including loop-transport combinations, available in all areas where the underlying UNEs are available and in all instances where the requesting carrier meets the eligibility requirements.[1774] We decline to designate EELs as additional UNEs for which an impairment analysis is necessary. Instead, we continue to view EELs as UNE combinations consisting of unbundled loops and unbundled transport (with or without multiplexing capabilities). Pursuant to the statute, requesting carriers are entitled to nondiscriminatory access to UNE combinations on just, reasonable, and nondiscriminatory rates, terms and conditions. Apart from the service eligibility criteria for high-capacity (DS1 or DS3) EELs set forth in Part VII below, our rules do not permit incumbent LECs to impose additional conditions or limitations upon obtaining access to EELs and other UNE combinations, such as requiring a competitive LEC to purchase special access and then convert such facilities to UNEs.[1775] Thus, to the extent DS1 transport facilities are available along a specific route, for example, the incumbent LEC must provide (upon request) a DS1 EEL consisting of unbundled loop and unbundled transport facilities to any requesting carrier that qualifies for access to that combination.[1776] Similarly, if desired, a

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[1772] *Verizon*, 535 U.S. at 536 (citing *Local Competition Order*, 11 FCC Rcd at 15605-06, para. 203).

[1773] 47 C.F.R. § 51.315(e), (f). We note that our prior rules used the word "impair" in defining an incumbent LEC's obligations to provide UNE combinations upon request. *See* 47 C.F.R. §§ 51.315(c), (f). To avoid confusion between the standard under these rules and the impairment standard in section 251(d)(2)(B) of the Act, we amend these rules to eliminate this use of "impair." *See infra* App. B.

[1774] *Local Competition Order*, 11 FCC Rcd at 1646-48, paras. 292-97; *Verizon*, 535 U.S. at 531-38 (upholding the Commission's rules on UNE combinations). *See USTA*, 290 F.3d at 428 (concluding that "the Commission has the authority to require [loop-transport] combinations, affirmatively"); *see also* AT&T Reply at 299; XO Reply at 5-7.

[1775] *See* ALTS *et al*. Comments at 102; AT&T Comments at 105-06 (asserting that incumbent LECs require pre-auditing); BrahmaCom Reply at 2 (arguing that incumbent LECs impose a conversion requirement on EELs); Focal Apr. 5, 2001 Comments at 5-6; Letter from Thomas Jones, Counsel for Conversent, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 4 (filed Nov. 5, 2002) (Conversent Nov. 5, 2002 Transport and Loops *Ex Parte* Letter). We therefore grant CompTel's request to clarify that requesting carriers need not purchase special access circuits in order to qualify for EELs. CompTel Feb. 17, 2000 Petition for Reconsideration. We deny, however, CompTel's request to specify the EEL as an additional network element. *Id.* at 13-14. In addition, in light of our determination herein regarding EELs, we dismiss as moot WorldCom's petition for clarification regarding the proper interpretation of section 51.315(b) of the Commission's rules. MCI WorldCom Feb. 17, 2000 Petition for Clarification at 2, 13.

[1776] *See infra* Part V.B.; *see also* BellSouth Reply at 22.

competitive LEC could obtain access to a DS0 EEL so long as the underlying UNEs are available pursuant to our impairment analysis.[1777]

576. Based on the record before us, we conclude that EELs facilitate the growth of facilities-based competition in the local market.[1778] The availability of EELs extends the geographic reach for competitive LECs because EELs enable requesting carriers to serve customers by extending a customer's loop from the end office serving that customer to a different end office in which the competitive LEC is already located. In this way, EELs also allow competitive LECs to reduce their collocation costs by aggregating loops at fewer collocation locations and then transporting the customer's traffic to their own switches. Moreover, we find that access to EELs also promotes self-deployment of interoffice transport facilities by competitive LECs because such carriers will eventually self-provision transport facilities to accommodate growing demand.[1779] We further agree that the availability of EELs and other UNE combinations promotes innovation because competitive LECs can provide advanced switching capabilities in conjunction with loop-transport combinations.[1780]

577. As discussed below, a competitive LEC must meet the eligibility criteria in order to obtain a high-capacity EEL on an unbundled basis.[1781] On a going-forward basis, a requesting carrier may obtain a high-capacity EEL any time the underlying network elements are available pursuant to our impairment analysis and the carrier meets the eligibility criteria.[1782] We conclude that pre-audits and requirements to purchase special access and then convert to UNE

[1777] WorldCom Nov. 13, 2002 *Ex Parte* Letter at 1-3 (describing DS0 EEL arrangements); Letter from William Jordan, Vice President, BellSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Nov. 25, 2002) (BellSouth Nov. 25, 2002 EELs *Ex Parte* Letter) (describing BellSouth's EEL offerings).

[1778] ALTS *et al*. Comments at 76-77; AT&T Comments at 99, 203; Letter from Julia O. Strow, Vice President, Cbeyond, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, 01-318, 01-321 at 1-2 (filed Dec. 16, 2002) (Cbeyond Dec. 16, 2002 EELs *Ex Parte* Letter).

[1779] AT&T Reply at 252; NewSouth Comments at 14-15 (explaining practices implemented to make network more efficient).

[1780] Letter from Patrick J. Donovan, Counsel for Cbeyond, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-2 (filed Dec. 16, 2002) (Cbeyond Dec. 16, 2002 *Ex Parte* Letter); BroadRiver Apr. 5, 2001 Comments at 5 (arguing that EEL availability will "accelerate the rollout of next generation networks"); WorldCom Apr. 5, 2001 Comments at 28-29 (arguing that EEL availability promotes innovation).

[1781] *See infra* Part VII.B.; *see also* AT&T Comments at 104-05; AT&T Reply, Tab F, Declaration of Michael E. Lesher (AT&T Lesher Reply Decl.) at para. 33; CompTel Comments at 90-95; CompTel Apr. 30, 2001 Reply at 2-4. AT&T Apr. 5, 2001 Comment at 20. *But see* SBC Reply at 67-69. *See, e.g.*, Letter from Ann D. Berkowitz, Project Manager, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 13 (filed Oct. 16, 2002) (Verizon Oct. 16, 2002 Section 251 Obligations *Ex Parte* Letter) (arguing that the Commission should limit the use of UNEs to providing local service).

[1782] Thus, a requesting carrier may obtain access to a "new" EEL or other UNE combination. *See* BroadRiver Apr. 5, 2001 Comments at 16-19 (arguing that the Commission should allow competitive LECs to obtain access to new EELs).

combinations constitute unjust, unreasonable, and discriminatory terms and conditions for obtaining access to UNE combinations and are prohibited by the Act and our rules.[1783]

578. We decline to link the availability of EELs and other UNE combinations to our analysis in the *Pricing Flexibility Order*.[1784] Because the comprehensive impairment analysis we adopt herein addresses the arguments of Qwest and other incumbent LECs concerning the availability of alternative transmission facilities, additional conditions are not necessary to determine the availability of EELs and other UNE combinations.

c. General Commingling Issues for Transmission Facilities

579. We eliminate the commingling restriction that the Commission adopted as part of the temporary constraints in the *Supplemental Order Clarification* and applied to stand-alone loops and EELs. We therefore modify our rules to affirmatively permit requesting carriers to commingle UNEs and combinations of UNEs with services (*e.g.*, switched and special access services offered pursuant to tariff), and to require incumbent LECs to perform the necessary functions to effectuate such commingling upon request. By commingling, we mean the connecting, attaching, or otherwise linking of a UNE, or a UNE combination, to one or more facilities or services that a requesting carrier has obtained at wholesale from an incumbent LEC pursuant to any method other than unbundling under section 251(c)(3) of the Act, or the combining of a UNE or UNE combination with one or more such wholesale services. Thus, an incumbent LEC shall permit a requesting telecommunications carrier to commingle a UNE or a UNE combination with one or more facilities or services that a requesting carrier has obtained at wholesale from an incumbent LEC pursuant to a method other than unbundling under section 251(c)(3) of the Act. In addition, upon request, an incumbent LEC shall perform the functions necessary to commingle a UNE or a UNE combination with one or more facilities or services that a requesting carrier has obtained at wholesale from an incumbent LEC pursuant to a method other than unbundling under section 251(c)(3) of the Act. As a result, competitive LECs may connect, combine, or otherwise attach UNEs and combinations of UNEs to wholesale services (*e.g.*, switched and special access services offered pursuant to tariff), and incumbent LECs shall

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[1783] 47 U.S.C. §§ 201-202, 251(c)(3); 47 C.F.R. §§ 51.311-.315. *See* XO Reply at 7 (arguing that competitive LECs may obtain EELs without conversion requirements); Cbeyond Apr. 5, 2001 Comments at 6-9 (arguing that incumbent LECs have required compliance audits before providing access to a UNE combination); Focal Apr. 30, 2001 Reply at 6.

We note that, because the Eighth Circuit had vacated our rules concerning new combinations, competitive LECs could obtain access to EELs through a conversion process under section 51.315(b) of our rules, which prohibited incumbent LECs from separating network elements ordinarily combined. In light of *Verizon*, our new combinations rules were reinstated, and thus, competitive LECs may order new UNE combinations and need not convert special access (or other previously combined network elements) to UNE combinations. *See Verizon*, 535 U.S. at 531-38 (upholding the Commission's rules on UNE combinations).

[1784] Qwest Reply at 56-57. We note that Qwest later modified its position to support the availability of EELs. *See* Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 15-17 (filed Dec. 17, 2002) (Qwest Dec. 17, 2002 *Ex Parte* Letter).

not deny access to UNEs and combinations of UNEs on the grounds that such facilities or services are somehow connected, combined, or otherwise attached to wholesale services.

580. As explained below, however, we do not require incumbent LECs to "ratchet"[1785] individual facilities. Thus, we do not require incumbent LECs to implement any changes to their billing or other systems necessary to bill a single circuit at multiple rates (*e.g.*, a DS3 circuit at rates based on special access services and UNEs) in order to charge competitive LECs a single, blended rate. Although we do not require ratcheting, we do note that incumbent LECs shall not deny access to a UNE on the ground that the UNE or UNE combination shares part of the incumbent LEC's network with access services or other non-qualifying services.[1786]

581. We conclude that the Act does not prohibit the commingling of UNEs and wholesale services and that section 251(c)(3) of the Act grants authority for the Commission to adopt rules to permit the commingling of UNEs and combinations of UNEs with wholesale services, including interstate access services. An incumbent LEC's wholesale services constitute one technically feasible method to provide nondiscriminatory access to UNEs and UNE combinations.[1787] We agree with the Illinois Commission, the New York Department, and others that the commingling restriction puts competitive LECs at an unreasonable competitive disadvantage by forcing them either to operate two functionally equivalent networks – one network dedicated to local services and one dedicated to long distance and other services – or to choose between using UNEs and using more expensive special access services to serve their customers.[1788] Thus, we find that a restriction on commingling would constitute an "unjust and

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[1785] Ratcheting is a pricing mechanism that involves billing a single circuit at multiple rates to develop a single, blended rate.

[1786] More specifically, our approach to ratcheting does not mean that an incumbent LEC can refuse to commingle a UNE with a special access service because the incumbent LEC multiplexes traffic for multiple customers onto one facility within its own network. For example, an incumbent LEC shall not refuse to provide a UNE DS1 transport (where such UNEs are available) on the grounds that the UNE shares a transmission facility with tariffed access services or other wholesale services.

[1787] *See* NewSouth Comments at 42-43 (describing connections and work processes); Qwest Dec. 17, 2002 *Ex Parte* Letter at 15-16 (proposing and describing EEL arrangements); Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 4-6 (filed Dec. 18, 2002) (Qwest Dec. 18, 2002 EELs *Ex Parte* Letter) (describing Qwest's commingling proposal); Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Feb. 6, 2003) (Qwest Feb. 6, 2003 EELs *Ex Parte* Letter) (describing Qwest's commingling proposal); AT&T Apr. 5, 2001 Comments at 22. In addition, we find that commingling is a technically feasible practice. *See, e.g.*, AT&T Apr. 30, 2001 Reply, CC Docket No. 96-98, Decl. of Anthony Fea and William J. Taggart III (AT&T Apr. 30, 2001 Fea/Taggart Reply Decl.) at para. 40 (asserting that linking loops or loop-transport combinations with high-capacity special access services is technically feasible). In light of the determinations we make herein, we grant WorldCom's request to clarify that requesting carriers may commingle UNEs with other types of services. MCI WorldCom Feb. 17, 2000 Petition for Clarification at 21-23.

[1788] In the *Local Competition Order*, the Commission concluded that those "terms require incumbent LECs to provide unbundled elements under terms and conditions that would provide an efficient competitor with a meaningful opportunity to compete." 11 FCC Rcd at 15660, para. 315; *see UNE Remand*, 15 FCC Rcd at 3913-14, paras. 490-91. A number of parties persuade us that a commingling restriction, combined with the reduced (continued….)

unreasonable practice" under 201 of the Act, as well as an "undue and unreasonable prejudice or advantage" under section 202 of the Act.[1789] Furthermore, we agree that restricting commingling would be inconsistent with the nondiscrimination requirement in section 251(c)(3).[1790] Incumbent LECs place no such restrictions on themselves for providing service to any customers by requiring, for example, two circuits to accommodate telecommunications traffic from a single customer or intermediate connections to network equipment in a collocation space.[1791] For these

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unbundling obligations, would raise the costs of competitive LECs. AT&T Comments at 106-107; ALTS *et al*. Comments at 106; CompTel Comments at 97; Illinois Commission Comments at 5; Sprint Comments at 55-57; WorldCom Comments at 55; AT&T Reply at 293 (citing AT&T Lesher Reply Decl. at paras. 34-36); NewSouth Reply at 37; Sprint Reply at 46; NuVox *et al*. Reply at 52; XO Reply at 17; Letter from Ruth Milkman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 13 (filed Oct. 7, 2002) (WorldCom Oct. 7, 2002 EELs *Ex Parte* Letter) (asserting that commingling "forces needless inefficiencies on competitors"); Letter from Michael H. Pryor, Counsel for NewSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98 (filed Oct. 18, 2002) (NewSouth Oct. 18, 2002 Loops and Commingling *Ex Parte* Letter); ALTS/CompTel Oct. 28, 2002 *Ex Parte* Letter at 5; Cbeyond Nov. 22, 2002 *Ex Parte* Letter; Letter from Jonathan Askin, General Counsel, ALTS, to William F. Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 5 (filed Nov. 14, 2002) (ALTS Nov. 14, 2002 Use and Commingling Restrictions *Ex Parte* Letter); WorldCom Nov. 22, 2002 *Ex Parte* Letter at 13-14; AT&T Dec. 23, 2002 *Ex Parte* Letter at 8 (arguing that commingling restrictions force competitive LECs into inefficient network architectures); Letter from Ruth Milkman, Counsel for WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Feb. 13, 2003) (WorldCom Feb. 13, 2003 EELs *Ex Parte* Letter); Letter from Patrick Donovan, Counsel for Cbeyond, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338 at 4 (filed Feb. 13, 2003) (Cbeyond Feb. 13, 2003 EELs and Commingling *Ex Parte* Letter). *See* Cbeyond *et al*. Apr. 5, 2001 Comments at 14 (requesting clarification that competitive LECs can purchase access to a DS1 EEL that is "riding on a DS3 circuit with other types of ancillary traffic"); CompTel Apr. 5, 2001 Comments at 33; AT&T Apr. 30, 2001 Fea/Taggart Reply Decl. at paras. 41-42. We therefore disagree with Qwest and the other incumbent LECs who argue that the commingling restriction does not impede competitive LECs from deploying efficient network configurations. *See* SBC Comments at 108 (noting that commingling restriction precludes competitive LECs from obtaining UNEs and access services that share the same facility); BellSouth Reply at 40 (stating that competitive LECs can connect UNEs and access services at collocation arrangements); Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98 at 3 (filed Oct. 28, 2002) (Qwest Oct. 28, 2002 Transport and Commingling *Ex Parte* Letter).

[1789] ALTS *et al*. Comments at 105; ALTS/CompTel Oct. 28, 2002 *Ex Parte* Letter at 5; WorldCom Nov. 18, 2002 *Ex Parte* Letter at 15; Cbeyond Nov. 22, 2002 *Ex Parte* Letter at 13-14.

[1790] AT&T Comments at 107; Illinois Commission Comments at 5; WorldCom Reply at 32; ALTS/CompTel Oct. 28, 2002 *Ex Parte* Letter at 5; AT&T Nov. 23, 2002 *Ex Parte* Letter at 8 (arguing that commingling restriction is discriminatory).

[1791] AT&T Comments at 107 (arguing that "the co-mingling ban deprives CLECs of obtaining the same network efficiencies as the ILEC enjoys because the ILEC can place any traffic on any facility to maximize efficiency"); NewSouth Comments at 42-46; Sprint Reply at 46-48; WorldCom Apr. 30, 2001 Reply at 14; CompTel Apr. 5, 2001 Comments at 33; AT&T Apr. 30, 2001 Fea/Taggart Reply Decl. at paras. 41-42); *see* 47 C.F.R. § 51.315(b) (requiring incumbent LECs to provide access to UNEs on terms and conditions no less favorable to those under which the incumbent LEC provides such UNEs to itself). *But see* SBC Comments at 108 (noting requirement for competitive LECs to collocate in certain circumstances); Verizon Comments at 141 (acknowledging that it combines all telecommunications traffic on the same facilities); BellSouth Reply at 40 (acknowledging collocation requirement); *see* 47 C.F.R. § 51.315(b) (requiring incumbent LECs to provide access to UNEs on terms and conditions no less favorable to those under which the incumbent LECs provides such UNEs to itself).

reasons, we require incumbent LECs to effectuate commingling by modifying their interstate access service tariffs to expressly permit connections with UNEs and UNE combinations.[1792]

582. We decline, however, to require "ratcheting," which is a pricing mechanism that involves billing a single circuit at multiple rates to develop a single, blended rate.[1793] The Commission's pricing rules for UNEs already ensure that competitive LECs are paying appropriate rates for UNEs and UNE combinations, and that incumbent LECs are adequately compensated for the use of their networks. To permit ratcheting would be to create an additional series of discounts for situations in which all parties' interests are already protected.[1794] Thus, our rules permit incumbent LECs to assess the rates for UNEs (or UNE combinations) commingled with tariffed access services on an element-by-element and a service-by-service basis.[1795] This ensures that competitive LECs do not obtain an unfair discount off the prices for

[1792] We note that sections 202 and 203 of the Act provide specific penalties for noncompliance. *See* 47 U.S.C. §§ 202(c), 203(e). These amounts have been adjusted to $7,600 for each offense and $330 for each day of the continuance of the offense. 47 C.F.R. § 1.80(b)(4). Thus, any incumbent LEC policy or practice that has the effect of prohibiting commingling could subject the incumbent LEC to enforcement action for imposing an "undue or unreasonable prejudice or disadvantage" upon competitive LECs. In addition, the Commission's rules establish a five-year statute of limitations for violations of sections 202 and 203. *Id.* at § 1.80(c)(2).

[1793] CompTel Comments at 97-98 (citing *BellSouth Telecommunications, Inc. Part 69(g)(1) Public Interest Petition to Establish New Rate Elements for Switched Access Versions of BellSouth's SMARTGate Service and BellSouth SPA Managed Shared Network*, Memorandum Opinion and Order, 14 FCC Rcd 1838, 1839, para. 2, n.2 (CCB 1998) (*BellSouth Ratcheting Order*); Sprint Comments at 56, n.48; Sprint Reply at 47. As explained in the *BellSouth Ratcheting Order*, ratcheting allows special access charges to be reduced by 1/24th for each switched access voice-grade circuit on a special access DS1 or 1/672nd for each switched access voice-grade circuit on a special access DS3. *BellSouth Ratcheting Order*, 14 FCC Rcd at 1839 n.2. We note that some parties contend that any Commission rule requiring ratcheting would necessitate substantial modifications to incumbent LEC billing systems and operational procedures. *See* Letter from Glenn T. Reynolds, Vice President – Federal Regulatory, BellSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Feb. 6, 2003) (BellSouth Feb. 6, 2003 Ratcheting *Ex Parte* Letter). Because we do not require ratcheting, however, we find no need to address these arguments.

[1794] Our decision not to require ratcheting does not affect a competitive LEC's ability to obtain UNEs, UNE combinations, and wholesale services. Thus, an incumbent LEC may not deny access to a UNE or UNE combination on the grounds that such UNE or UNE combination shares part of the incumbent LEC's network with access or other non-UNE services. Some competitive LECs have contended, for example, that incumbent LECs deny access to UNE combinations on the grounds that a UNE and access service share certain multiplexing equipment. *See* Letter from Brad E. Mutschelknaus *et al*., Counsel for ALTS *et al*., to Dorothy Attwood, Chief, Common Carrier Bureau, FCC, CC Docket No. 96-98 (filed Aug. 1, 2001) (ALTS Aug. 1, 2001 EELs *Ex Parte* Letter), *in* Letter from Steven A. Augustino, Counsel for ALTS *et al*., to Magalie Roman Salas, Secretary, FCC, CC Docket No. 96-98 (filed Aug. 1, 2001). By eliminating the commingling restriction, we will ensure that competitive LECs will be able to obtain all available UNEs, UNE combinations, and wholesale services, albeit at the rates established pursuant to tariffs, interconnection agreements or other contracts.

[1795] *See infra* Part VII.B.

wholesale services, while at the same time ensuring that competitive LECs do not pay twice for a single facility.[1796]

583. We therefore disagree with SBC, Verizon, and others who argue in favor of adopting a permanent commingling restriction. First, we determine that the eligibility qualifications adopted herein (and applied to all conversions of a special access circuit to a high-capacity EEL; to obtaining a new high-capacity EEL; and to obtaining at UNE pricing part of a high-capacity loop-transport combination) address the universal service and access charge arguments by ensuring competitive LECs purchase UNEs for legitimate competitive purposes.[1797] Second, we conclude that the commingling restriction is no longer necessary to preserve the status quo while the Commission grapples with potential modifications to its universal service and access charge policies.[1798] We recognize that some issues remain outstanding, but we conclude that the remaining issues do not, by themselves, warrant a permanent restriction on commingling UNEs and UNE combinations with wholesale services. Third, we find that commingling does not constitute the creation of a new UNE for which an impairment analysis is required.[1799] Instead, commingling allows a competitive LEC to connect or attach a UNE or UNE combination with an interstate access service, such as high-capacity multiplexing or transport services. Because commingling will not enable a competitive LEC to obtain reduced or discounted prices on tariffed special access services because we are not requiring ratcheting,[1800] our general impairment analysis for individual UNEs is adequate. Fourth, we conclude that permitting commingling is consistent with the D.C. Circuit's *CompTel* decision. Verizon incorrectly characterizes that decision as finding that a commingling restriction is

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[1796] For example, a competitive LEC connecting a UNE loop to special access interoffice transport facilities would pay UNE rates for the unbundled loops and tariffed rates for the special access service. We recognize that, at some point, competitive LECs may make a business decision to either use UNEs or wholesale services to serve a customer. For example, a competitive LEC buying UNE DS1 transport continues to add UNE DS1 transport facilities to its network. At some point, the competitive LEC will make a business decision to either buy DS3 special access (and convert its traffic onto the larger facility) or to buy UNE DS3 transport, where available and if the competitive LEC meets the service eligibility requirements.

[1797] AT&T Reply at 284; WorldCom Reply at 36. *But see* SBC Comments at 107; NECA Reply at 4-5.

[1798] ALTS *et al*. Comments at 105-06; CompTel Comments at 76-77; NuVox *et al*. Comments at 49-51 (citing *CALLS* and *MAG* Orders); Norlight Comments at 9-10; AT&T Reply at 284, 290; WorldCom Reply at 36; Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 13 (filed Oct. 7, 2002) (AT&T Oct. 7, 2002 Transport and Commingling *Ex Parte* Letter); 13; Nov. 14, 2002 ALTS *Ex Parte* Letter at 3, 5. *But see* NECA Reply at 3; NECA Apr. 5, 2001 Comments at 3-5; TDS Apr. 5, 2001 Comments at 1-7; USTA Apr. 5, 2001 Comments at 9-11.

[1799] Letter from Brad E. Mutschelknaus, Counsel for ALTS, to Magalie Roman Salas, Secretary, FCC, CC Docket No. 96-98 at 3-5 (filed Aug. 20, 2001) (ALTS Aug. 20, 2001 EELs *Ex Parte* Letter); SBC/Verizon Apr. 5, 2001 Comments at 30.

[1800] As discussed below, we are not requiring incumbent LECs to blend the rates of a transmission facility according to the amount of UNE usage and access service usage. Thus, competitive LECs that commingle UNEs or UNE combinations with, for example, interstate access services would pay the appropriate rates for each service.

necessary because its absence would allow mass conversions.[1801] Instead, the court concluded that, based on the information submitted by the parties, it could not conclude that the Commission's prior commingling restriction was arbitrary and capricious.[1802] Further, as we explain in detail below, we obviate the risk identified by the court by applying service eligibility criteria to commingled loop-transport combinations. Finally, we conclude that the billing and operational issues raised by Verizon do not warrant a permanent commingling restriction, but instead can be addressed through the same process that applies for other changes in our unbundling requirements adopted herein, *i.e.*, through change of law provisions in interconnection agreements.[1803] We expect that change of law provisions will afford incumbent LECs sufficient time to complete all actions necessary to permit commingling.[1804]

584. As a final matter, we require that incumbent LECs permit commingling of UNEs and UNE combinations with other wholesale facilities and services, including any network elements unbundled pursuant to section 271 and any services offered for resale pursuant to section 251(c)(4) of the Act. Section 251(c)(4) places the duty on incumbent LECs "not to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on" the resale of telecommunications services provided at retail to customers who are not telecommunications carriers.[1805] Any restriction that prevents commingling of UNEs (or UNE combinations) with resold services constitutes a limitation on both reselling the eligible service and on obtaining access to the UNE or UNE combination. We conclude that a restriction on commingling UNEs and UNE combinations with services eligible for resale is inconsistent with the section 251(c)(4) prohibition on "unreasonable . . . conditions or limitations" because it would impose additional costs on competitive LECs choosing to compete through multiple entry strategies, and because such a restriction could even require a competitive LEC to forego using efficient strategies for serving different customers and markets. We agree with ALTS that an incumbent LEC's obligations under sections 251(c)(3) and 251(c)(4) are not mutually exclusive.[1806] In addition, a restriction on obtaining UNEs and UNE combinations in conjunction with services available for resale would constitute a discriminatory condition on the resale of

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[1801] Verizon Dec. 17, 2002 *Ex Parte* Letter at 5; Letter from Ann D. Berkowitz, Project Manager, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Jan. 30, 2003); Letter from Ann D. Berkowitz, Project Manager, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 2-3 (filed Feb 6, 2003).

[1802] *CompTel*, 309 F.3d at 17-18.

[1803] CompTel Comments at 97-98; NewSouth Comments at 41; Sprint Comments at 56; WorldCom Reply at 33-34; Sprint Reply at 47. *But see* Verizon Comments at 140. We note that, taken to its extreme, the incumbent LEC argument would prevent any modification of our UNE rules because billing and operational changes would certainly follow any such change.

[1804] For example, incumbent LECs will have to modify their interstate tariffed offerings to permit commingling of interstate access services with UNEs and UNE combinations.

[1805] 47 U.S.C. § 251(c)(4).

[1806] ALTS *et al*. Comments at 98.

eligible telecommunications services because incumbent LECs impose no such limitations or restrictions on their ability to combine facilities and services within their network in order to meet customer needs.[1807]

d. Conversions

585. We decline the suggestions of several parties to adopt rules establishing specific procedures and processes that incumbent LECs and competitive LECs must follow to convert wholesale services (*e.g.*, special access services offered pursuant to interstate tariff) to UNEs or UNE combinations, and the reverse, *i.e.*, converting UNEs or UNE combinations to wholesale services.[1808] Because both the incumbent LEC and requesting carriers have an incentive to ensure correct payment for services rendered, and because both parties are bound by duties to negotiate in good faith, we conclude that these carriers can establish any necessary procedures to perform conversions with minimal guidance on our part.

586. We conclude that carriers may both convert UNEs and UNE combinations to wholesale services and convert wholesale services to UNEs and UNE combinations, so long as the competitive LEC meets the eligibility criteria that may be applicable. To the extent a competitive LEC fails to meet the eligibility criteria for serving a particular customer, the serving incumbent LEC may convert the UNE or UNE combination to the equivalent wholesale service in accordance with the procedures established between the parties. Likewise, to the extent a competitive LEC meets the eligibility requirements and a particular network element is available as a UNE pursuant to our impairment analysis, it may convert the wholesale service used to serve a customer to UNEs or UNE combinations in accordance with the relevant procedures. Converting between wholesale services and UNEs or UNE combinations should be a seamless process that does not affect the customer's perception of service quality.[1809] We recognize that conversions may increase the risk of service disruptions to competitive LEC customers because they often require a competitive LEC to groom interexchange traffic off circuits and equipment that are already in use in order to comply with the eligibility criteria.[1810]

[1807] *See, e.g.*, AT&T Comments at 107; NewSouth Comments at 42-46; Sprint Reply at 46-48.

[1808] *See* ALTS *et al*. Comments at 101 (arguing that the Commission should establish explicit time period for effectuating conversions); Focal Apr. 30, 2001 Reply at 6-7. We therefore grant in part WorldCom's request to clarify that competitive LECs may convert existing special access services to combinations of loop and transport network elements, but only to the extent such conversions meet the service eligibility criteria for EELs adopted herein. MCI WorldCom Feb. 17, 2000 Petition for Clarification at 24. Furthermore, we dismiss as moot Intermedia's request to issue another supplementary order clarifying that incumbent LECs must make available loop and transport network elements that are currently combined as tariffed special access services. Intermedia Feb. 17, 2000 Petition for Reconsideration at 14-15.

[1809] We note that no party seriously contends that it is technically infeasible to convert UNEs and UNE combinations to wholesale services and vice versa.

[1810] WorldCom explains that the grooming process requires "submission of circuit-level disconnect orders, and circuit-level reconnect orders" during limited periods of time in order to segregate telecommunications traffic onto the redundant facilities required by the commingling restriction. WorldCom Apr. 5, 2001 Comments at 37-38. *See* (continued….)

Thus, requesting carriers should establish and abide by any necessary operational procedures to ensure customer service quality is not affected by conversions.

587. We decline to require incumbent LECs provide requesting carriers an opportunity to supersede or dissolve existing contractual arrangements through a conversion request. Thus, to the extent a competitive LEC enters into a long-term contract to receive discounted special access services, such competitive LEC cannot dissolve the long-term contract based on a future decision to convert the relevant circuits to UNE combinations based on changes in customer usage.[1811] We recognize, however, that once a competitive LEC starts serving a customer, there exists a risk of wasteful and unnecessary charges, such as termination charges, re-connect and disconnect fees, or non-recurring charges associated with establishing a service for the first time. We agree that such charges could deter legitimate conversions from wholesale services to UNEs or UNE combinations, or could unjustly enrich an incumbent LEC as a result of converting a UNE or UNE combination to a wholesale service.[1812] Because incumbent LECs are never required to perform a conversion in order to continue serving their own customers, we conclude that such charges are inconsistent with an incumbent LEC's duty to provide nondiscriminatory access to UNEs and UNE combinations on just, reasonable, and nondiscriminatory rates, terms, and conditions.[1813] Moreover, we conclude that such charges are inconsistent with section 202 of the Act, which prohibits carriers from subjecting any person or class of persons (*e.g.*, competitive LECs purchasing UNEs or UNE combinations) to any undue or unreasonable prejudice or disadvantage.[1814]

588. We conclude that conversions should be performed in an expeditious manner in order to minimize the risk of incorrect payments. We expect carriers to establish any necessary timeframes to perform conversions in their interconnection agreements or other contracts. We decline to adopt ALTS's suggestion to require the completion of all necessary billing changes within ten days of a request to perform a conversion because such time frames are better established through negotiations between incumbent LECs and requesting carriers.[1815] We recognize, however, that converting between wholesale services and UNEs (or UNE combinations) is largely a billing function. We therefore expect carriers to establish appropriate mechanisms to remit the correct payment after the conversion request, such as providing that any pricing changes start the next billing cycle following the conversion request.

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ALTS *et al*. Comments at 105 (arguing that "force moves" are inefficient and risky); AT&T Comments at 108 (citing AT&T Apr. 5, 2001 Comments at 22); Sprint Reply at 46-48.

[1811] We would expect competitive LECs to take into account the possibility of future conversions to UNE combinations before entering into a long-term contract (with associated discounts) for wholesale services.

[1812] AT&T Reply at 296-300; AT&T Nov. 23, 2002 *Ex Parte* Letter at 12-13.

[1813] 47 U.S.C. § 251(c)(3).

[1814] *Id*. § 202(a).

[1815] ALTS *et al*. Comments at 101.

589. As a final matter, we decline to require retroactive billing to any time before the effective date of this Order. The eligibility criteria we adopt in this Order supersede the safe harbors that applied to EEL conversions in the past. To the extent pending requests have not been converted, however, competitive LECs are entitled to the appropriate pricing up to the effective date of this Order.

B. Service Eligibility to Access UNEs

1. Background

590. A requesting carrier may obtain a UNE where it provides qualifying services over that UNE.[1816] In the *Local Competition Order* and *UNE Remand Order*, the Commission determined not to impose eligibility thresholds for UNE access.[1817] In the *Supplemental Order*, it restricted the ability of competitive carriers to convert special access arrangements to EELs, unless such a carrier provides a "significant amount of local exchange services."[1818] In the *Supplemental Order Clarification*, the Commission clarified what constitutes a "significant amount of local exchange service" by defining three safe harbors for requesting carriers to demonstrate local usage to convert special access arrangements to EELs, two of which specified in detail a variety of local voice traffic requirements by circuit.[1819] In the *Triennial Review NPRM*, the Commission sought comment on several issues relating to the safe harbors, including whether they effectively tailor access to EEL combinations to those requesting carriers seeking

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[1816] *See supra* Part V.B.2.c.

[1817] *Local Competition Order*, 11 FCC Rcd at 15679, para. 356; *UNE Remand Order*, 15 FCC Rcd at 3911-12, para. 484.

[1818] *Supplemental Order*, 15 FCC Rcd at 1760, para. 2.

[1819] The safe harbor exceptions require, in relevant part, that:

(1) the requesting carrier certifies it is the exclusive provider of an end user's local exchange service;

(2) the requesting carrier certifies that it provides local exchange and exchange access service to the end-user customer's premises and handles at least one third of the end-user customer's local traffic as measured as a percent of total end-user dialtone lines; for DS1 circuits and above, at least 50 percent of the activated channels on the loop portion of the loop-transport combination have at least 5 percent local voice traffic individually, and the entire loop facility has at least 10 percent local voice traffic; or

(3) the requesting carrier certifies that at least 50 percent of the activated channels on a circuit are used to provide originating and terminating local dialtone service and at least 50 percent of the traffic on each of these channels is local voice traffic and the entire loop facility has at least 33 percent local voice traffic.

Options (1) and (2) also require that the loop-transport combinations in question terminate at the requesting carrier's collocation arrangement in at least one incumbent LEC central office. For DS1 to DS3 multiplexing, each of the individual DS1 circuits must meet these criteria. *Supplemental Order Clarification*, 15 FCC Rcd at 9598-600, para. 22. All three options prohibited commingling EELs with tariffed access services, a restriction which we conclude is no longer necessary. *See supra* Part VII.A.2.

to provide "significant local usage" to their end users.[1820] Since the issuance of the *Triennial Review NPRM*, the D.C. Circuit has denied a petition for review of these safe harbors.[1821]

2. Discussion

a. Scope of Eligibility Criteria Limited to High-Capacity EELs

591. As we explain in detail under our service-specific approach, a carrier seeking access to an unbundled element of the incumbent LEC's network must provide qualifying service to a customer in order to obtain access to that facility pursuant to our section 251 unbundling rules.[1822] With respect to combinations of high-capacity (DS1 and DS3) loops and interoffice transport, we adopt additional eligibility criteria that do not apply to other UNEs. Based on the record before us, we find that it is reasonable to adopt such eligibility criteria for these high-capacity circuits due to the potential for "gaming" by non-qualifying providers that is uniquely possible because of the technical characteristics of these facilities. By gaming of our eligibility criteria, we mean the case of a provider of exclusively non-qualifying service obtaining UNE access in order to obtain favorable rates or to otherwise engage in regulatory arbitrage. This includes the intentional circumvention of the intent of our rules to restrict unbundled network access to bona fide providers of qualifying service, such as a national data network provider carrying minimal qualifying service solely to obtain UNE pricing.

592. We do not, however, impose these additional requirements on access to UNEs other than high-capacity EELs. The record does not indicate concern over misuse of voice-grade UNE loops, high-capacity loops, or other UNEs.[1823] By contrast, it discloses significant disagreements between incumbent LECs and competitive LECs over application and administration of use restrictions on high-capacity EELs. Accordingly, although a requesting carrier must provide qualifying services to obtain access to loops, lower-capacity EELs and other UNEs and UNE combinations, we need not provide more detailed rules for application of these requirements to other elements at this time, given the lack of controversy and the greater administrative burdens that enforcing such protections places on requesting carriers, incumbent LECs, and the Commission.[1824] Should there become an apparent need in the future, however, to

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[1820] *Triennial Review NPRM*, 16 FCC Rcd at 22814, para. 74.

[1821] The court denied petitions for review that argued that the safe harbors were arbitrary and capricious. *CompTel*, 309 F.3d at 16-18.

[1822] We also conclude in Part V.B.2.c. that a requesting carrier providing qualifying service can also use that UNE to provide multiple services to a customer.

[1823] At least one incumbent LEC indicates that the Commission does not need to apply the same use restrictions to DS0 and other lower-capacity circuits as the Commission should apply to high-capacity circuits. *See* BellSouth Jan. 16, 2003 *Ex Parte* Letter, Attach. at 4 (stating that a simplified use restriction could be implemented so long as the protections for DS1 and higher-capacity circuits are continued and not subject to gaming).

[1824] We conclude that a requesting carrier qualifies for access to loops, transport, subloops, and other stand-alone UNEs, as well as EELs combining lower-capacity loops, so long as that carrier provides a qualifying service to the end-user customer. In contrast to the potential for interexchange carriers to use high-capacity EELs without (continued….)

guard against access to other parts of the network for the provision of non-qualifying services, we would revisit this decision.

593. To ensure that our rules on service eligibility are not gamed in whole or in part, we make clear that the service eligibility criteria must be satisfied (1) to convert a special access circuit to a high-capacity EEL; (2) to obtain a new high-capacity EEL; or (3) to obtain at UNE pricing part of a high-capacity loop-transport combination (commingled EEL). The *Supplemental Order Clarification* targeted the scope of its restrictions to protect a specific definition of special access service from conversion, namely, a service that "employs dedicated, high-capacity facilities that run directly between an end user, usually a large business customer, and the IXC's point of presence."[1825] Although that order did not rely expressly on the commingling restriction to prevent partial UNE conversions, the D.C. Circuit deduced that a commingling ban would appear to prevent gaming because "commingling will allow the entire base of the loop or 'channel termination' portion of special access circuits to be converted into unbundled loops."[1826] Pointing to this pronouncement from the court, incumbent LECs argue that permitting commingling, as we do in this Order, would risk conversion of the entire channel termination base.[1827]

594. In response to this concern, we apply service eligibility criteria to commingled loop-transport combinations and therefore avoid the possibility of across-the-board loop arbitrage, yet protect access to the UNE portion of a circuit that would otherwise qualify for conversion under the EELs rules we adopt today.[1828] For example, where a state commission

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providing any qualifying services, the record before us does not show such issues exist for transport, loops or other last-mile UNEs. *See*, *e.g.*, Covad Jan. 21, 2003 *Ex Parte* Letter at 3 (arguing that "a regime of use restrictions on standalone UNE loops, which affects all facilities-based carriers, to avoid speculative concerns about access charge bypass by a few carriers would be a vastly over-inclusive solution in search of a very narrow, speculative problem."). Although BellSouth states that local use restrictions are necessary for stand-alone UNEs, it focuses on the importance of conducting a local service impairment inquiry for all UNEs, and does not identify UNE access by non-local wireline providers as a problem. Letter from Glenn Reynolds, Vice President – Federal Regulatory, BellSouth, to William F. Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Jan. 21, 2003) (BellSouth Jan. 21, 2003 *Ex Parte* Letter). Accordingly, we find that certification is unnecessary to verify that carriers provide qualifying services over these UNEs.

[1825] *Supplemental Order Clarification*, 15 FCC Rcd at 9593, para. 10 n.36 (citations omitted). Our revised definition of dedicated transport, which is limited to transmission facilities within an incumbent LEC's network, squarely removes a key segment of those facilities from the incumbent LEC's unbundling obligation. *See supra* Part VI.C.3.

[1826] *CompTel*, 309 F.3d at 17-18. Incumbent LECs typically sell transmission service over a loop facility out of their special access tariffs as "channel termination." The court went on to explain that "[t]he reason is that there are no use restrictions on unbundled loops, and therefore allowing loops to be freely connected to special access services would allow loops that provide no local services to be unbundled and then merely attached to special access transports." *Id*. at 18.

[1827] *See, e.g.*, Verizon Dec. 17, 2002 *Ex Parte* Letter at 5.

[1828] At least one incumbent LEC endorses the availability of a commingled EEL subject to service eligibility restrictions. Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, (continued….)

finds that transport on a specific route is not available as a UNE pursuant to a Commission-defined trigger, a UNE loop would still be available in combination with a special access transport service on that route *so long as the eligibility criteria are satisfied*. Accordingly, a competitive LEC that provides local voice service would be able to obtain the UNE loop portion of a commingled circuit, but interexchange carriers would be unable to obtain the remaining loop base of special access circuits because of the service eligibility criteria we establish below.

b. Service Eligibility Criteria for High-Capacity EELs

595. A central goal of the service eligibility criteria we establish in this Order is to safeguard the ability of bona fide providers of qualifying service to obtain access to high-capacity EELs while simultaneously addressing the potential for gaming. To that end, we therefore focus on local voice service due to its verifiability and its role as the core competitive offering, either on a stand-alone or bundled basis, in direct competition to traditional incumbent LEC service.[1829] Importantly, in devising a gating mechanism to obtain high-capacity EELs, we recognize that we must go beyond superficial indicia and require satisfaction of multiple network-specific and circuit-specific criteria to ensure that the requesting carrier demonstrates a commitment to the local voice market.

596. In crafting eligibility requirements for competitive access to high-capacity EELs, we find our experience with the safe harbors set forth in the *Supplemental Order Clarification* to be instructive. On the one hand, several incumbent LECs argue that the safe harbors have provided certainty and accountability, have survived judicial review, and urge the Commission to retain them.[1830] On the other hand, many competitive LECs submit evidence that that the safe harbors and auditing procedures have proved to be unworkable and susceptible to abuse by the incumbent LECs.[1831] While the assignment of a local telephone number and other characteristics of local voice service provide a significant degree of bright-line measurability, we are mindful that overly intrusive and onerous compliance requirements, such as monitoring traffic over individual circuits, serve as a drag on competitive entry. To avoid the difficulties and unwanted effects of measuring usage or certifying to exclusivity in providing qualifying services, we adopt

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Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Feb. 13, 2003) (Qwest Feb. 13, 2003 Commingled EEL *Ex Parte* Letter).

[1829] Our identification of local voice service as the touchstone for high-capacity EEL eligibility does not limit our definition of qualifying services or otherwise affect our impairment findings.

[1830] *See*, *e.g.*, BellSouth Reply at 39-41; SBC Reply at 157-63; Verizon Dec. 17, 2002 *Ex Parte* Letter at 1.

[1831] *See*, *e.g.*, CompTel Comments at 99 n.206; NuVox *et al*. Reply at 51 (claiming that the safe harbors are "too cumbersome" and "amount to a mad science that challenges network engineers, marketing personnel and provisioners – and leaves far too much opportunity for creative interpretation by the ILECs.").

rules based largely on elements of the proposed architectural solutions advanced by SBC, Qwest, and BellSouth.[1832]

597. We conclude that where a requesting carrier satisfies the following three categories of criteria, it is a bona fide provider of qualifying services and thus is entitled to order high-capacity EELs. First, we find that each requesting carrier must have a state certification of authority to provide local voice service. Second, to demonstrate that it actually provides a local voice service to the customer over every DS1 circuit, we find that the requesting carrier must have at least one local number assigned to each circuit and must provide 911 or E911 capability to each circuit. Third, we find the following additional circuit-specific architectural safeguards to prevent gaming are necessary: each circuit must terminate into a collocation governed by section 251(c)(6) at an incumbent LEC central office within the same LATA as the customer premises;[1833] each circuit must be served by an interconnection trunk in the same LATA as the customer premises served by the EEL for the meaningful exchange of local traffic, and for every 24 DS1 EELs or the equivalent, the requesting carrier must maintain at least one active DS1 local service interconnection trunk; and each circuit must be served by a Class 5 switch or other switch capable of providing local voice traffic. Requesting carriers must certify to meeting all three criteria (authorization, local number and E911 assignment, and architectural safeguards) to qualify for the high-capacity circuit, subject to the certification and auditing requirements set forth in Part VII.C, below.

598. When applied in their totality, the criteria we adopt here to demonstrate that a requesting carrier has undertaken substantial regulatory and commercial measures to provide local voice service will ensure that the requesting carrier is indeed a provider of qualifying services. In this manner, the criteria afford high-capacity EEL access to an integrated communications provider that sells a bundle of local voice, long-distance voice, and Internet access to small businesses, because such a provider is competing against the incumbent LEC's local voice offerings.[1834] In contrast, a provider of exclusively long-distance voice or data

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[1832] *See* Letter from Julia O. Strow, Vice-President – Regulatory & Industry Relations, Cbeyond *et al*., to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, Attach. at 3 (filed Feb. 7, 2003) (SBC/NuVox/Cbeyond/SNiP LiNK Feb. 7, 2003 *Ex Parte* Letter); Qwest Feb. 13, 2003 *Ex Parte* Letter; Letter from Herschel L. Abbott, Jr., Vice President – Government Affairs, BellSouth, to Chairman Michael Powell, FCC, CC Docket No. 01-338, Attach. (filed Feb. 13, 2003) (BellSouth Feb. 13, 2003 *Ex Parte* Letter), *in* Letter from Jonathan Banks, General Attorney, BellSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Feb. 13. 2003). As we discuss later in this Part, several parties, these carriers as well as competitive LECs such as Cbeyond have supplemented their original comments and filed alternative proposals that incorporate network-design solutions intended to allow UNE access for local voice traffic, while seeking to minimize gaming by providers of non-qualifying services. We do not adopt in whole the proposals submitted by any of these carriers.

[1833] 47 U.S.C. § 251(c)(6). We therefore deny WorldCom's request to clarify that a collocation requirement is not necessary for competitive LECs to obtain EELs. MCI WorldCom Feb. 17, 2000 Petition for Clarification at 25.

[1834] For example, Cbeyond reports that well over 95% of its nearly 5000 customers had narrowband access and no T1 service prior to signing up for Cbeyond's integrated package. Letter from Julia Strow, Vice President – Regulatory & Legislative Affairs, Cbeyond, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Dec. 16, 2002) (Cbeyond Dec. 16, 2002 EELs *Ex Parte* Letter); *see also* Letter from Michael H. Pryor, Counsel for NewSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (continued….)

services that seeks to use high-capacity UNE facilities without providing any local services would fall short of one of the tests, if not all. As a further check on potential for abuse, we make clear that these requirements apply to all wholesale as well as retail service offerings over high-capacity EELs.

599. We apply the service eligibility requirements on a circuit-by-circuit basis, so each DS1 EEL (or combination of DS1 loop with DS3 transport) must satisfy the service eligibility criteria. Importantly, our adoption of this circuit-specific approach rather than a customer-specific one prevents gaming, so the qualification of one DS1 EEL to a customer does not qualify other DS1 EELs to that customer. Similarly, for arrangements where DS1 loops are multiplexed onto DS3 transport facilities, each DS1 loop that subtends the DS3 transport must qualify in order to obtain the transport at a UNE price.[1835] We also recognize that the harms associated with gaming by long-distance providers increase in direct proportion to the capacity level that a competitor seeks to utilize. Therefore, for a requesting carrier to obtain a DS3 EEL as a UNE, the requesting carrier must satisfy the criteria for service eligibility for the DS1-equivalent circuit capacity of that DS3 EEL.

600. As the Commission explained in adopting thresholds for pricing flexibility, our selection of tests here is not an exact science, but a determination based on agency expertise, our reading of the record before us, and a desire to provide an easily implemented and reasonable bright-line rule to guide the industry.[1836] Specifically, we find that each of these criteria is highly probative of legitimate provision of a qualifying service, and not overly burdensome for a requesting carrier to satisfy. We are persuaded on the record before us that while no single requirement can prevent gaming, the criteria we adopt are *collectively* sufficient to restrict the availability of these UNE combinations to legitimate providers of local voice service. The cost of taking the steps necessary to meet these criteria – especially collocation and network re-configuration – outweighs the benefits of lowering that carriers' special access rate to a UNE rate. Accordingly, the burdens and inefficiencies for a provider to meet these criteria for non-qualifying service would deter a carrier of non-qualifying services from re-designing its operations to subvert our rules. If these criteria prove insufficient to prevent the gaming of high-capacity EEL use, we stand ready to take corrective action to remedy any abuse.

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(filed Sept. 26, 2002) (NewSouth Sept. 26, 2002 *Ex Parte* Letter) (stating that over 90% of new customers are upgraded from analog to digital broadband services).

[1835] As explained above in Part VI.B.5., we do not require incumbent LECs to ratchet transmission facilities in a blended rate of UNE and special access pricing. Where a requesting carrier serves customers through DS1 facilities that are multiplexed onto a DS3 special access transport service, that carrier may obtain DS1 loops where it satisfies the service eligibility criteria for each loop.

[1836] *See Pricing Flexibility Order*, 14 FCC Rcd at 14276, para. 96 (citing *United States v. FCC*, 707 F.2d, 610, 618 (D.C. Cir. 1983)); *see also* NuVox *et al*. Jan. 10, 2003 *Ex Parte* Letter at 6 ("We can think of no test that will eliminate all possibilities of gaming and any need for enforcement activity.").

(i) Authorization to Provide Voice Service

601. The first prong, certification to provide local voice service, typically involves the review of technical and financial fitness by a state commission. Because some states only require providers of local voice service to be registered as telecommunications providers, certification is not mandatory in those states. As we explain in the discussion of certification and audit procedures below, evidence of registration, tariffing, filing of fees, or other regulatory compliance can demonstrate satisfaction of this criterion.[1837] We emphasize that the entity seeking to obtain the EEL must have direct authorization to do so, and cannot rely on certification granted to an affiliate.

(ii) Actually Providing Local Voice Service to the Customer Over Every Circuit

602. We find that local number assignment to a DS1 circuit, as well as 911/E911 capabilities, indicate that a requesting provider does, in fact, provide local voice service over that circuit to a customer. To ensure the legitimacy of these assignments, we adopt Qwest's proposal that the origination and termination of local voice traffic should not include a toll charge, and should not require dialing special digits beyond those normally required for a local voice call.[1838] Because some competitive LECs do not assign telephone numbers at the time of ordering,[1839] we find that a requesting carrier may satisfy the numbering and 911/E911 criteria to initiate the ordering process for a new EEL circuit by certifying that it will not begin to provide service until a local number is assigned and 911 or E911 capability is provided.[1840] Further, we also clarify that each DS1-equivalent circuit of a DS3 EEL must have its own local number assignment, so that each DS3 must have at least 28 local voice numbers assigned to it.

(iii) Architectural Safeguards to Prevent Gaming

603. Numerous parties to this proceeding proposed different limitations on access to EELs, many of which featured a variety of architectural solutions. The three elements of the criteria we adopt – collocation, interconnection, and termination at a local switch – build off of these proposals.

604. *Collocation*. We find that termination of a circuit into a section 251(c)(6) collocation arrangement in an incumbent LEC central office is an effective tool to prevent arbitrage, because collocation is a necessary building block for providing local voice services

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[1837] *See infra* Part VI.B.8.

[1838] Qwest Feb. 13, 2003 *Ex Parte* Letter, Attach. at 1.

[1839] Letter from John J. Heitman, Counsel for ALTS *et al*, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 9 (filed Dec. 16, 2002) (ALTS *et al*. Dec. 16, 2002 *Ex Parte* Letter).

[1840] However, in any event, a requesting carrier must assign the number and implement 911/E911 capability within 30 days after provisioning of the circuit. *See id*. (noting that proof can be supplied in such a timeframe).

and is traditionally not used by interexchange carriers. More specifically, because traditional interexchange configurations route long-distance traffic from a customer premises over tariffed channel termination and transport facilities directly to an interexchange POP, a section 251(c)(6) collocation requirement ensures that a carrier has set up an architecture that ensures that traffic can leave the incumbent LEC network prior to hitting the POP.[1841] Accordingly, the collocation criterion serves as an easily verifiable test that the circuit terminating at the collocation arrangement carries local voice traffic. As further evidence that a carrier provides qualifying voice service, the collocation arrangement must be within the same LATA as the customer premises.[1842]

605. We emphasize that the collocation must be within the incumbent LEC network, and cannot be at an interexchange carrier POP or ISP POP. However, a requesting carrier can satisfy this prong through reverse collocation. For the purposes of this test, we adopt SNiP LiNK's definition of all mutually-agreeable interconnection methodologies.[1843] We also clarify that any non-incumbent LEC collocation arrangement pursuant to section 251(c)(6) meets this test.[1844] Permitting indirect collocation to satisfy this test is especially critical in light of the fact that fewer transmission facilities will be unbundled than previously following the issuance of this Order,[1845] and our conclusion that incumbent LEC prohibitions on the commingling of UNEs with tariffed services are unjust and unreasonable.[1846]

[1841] A carrier that routes traffic directly from a customer premises to a POP on an inter-city network without providing local service would not have a reason to arrange and pay for collocation and local interconnection trunks. For instance, AT&T reports that 75% of its special access circuits terminate at its interexchange carrier POP. AT&T proposes that, to the extent that the Commission determines to limit the use of UNE combinations (but not individual UNEs), special access combinations terminating at an interexchange carrier POP would not be eligible for UNE conversion. AT&T Jan. 16, 2003 *Ex Parte* Letter at 1, 3-4. We therefore dismiss the assertions by some parties that a collocation requirement is unnecessary to ensure the provision of local service. *See*, *e.g.*, CompTel Comments at 98-99. We also reject the argument that collocation is too insignificant because "direct connections [to a POP] are not the norm for special access customers." Letter from Dee May, Assistant Vice President, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 2 (filed Jan. 27, 2003).

[1842] *See* AT&T Jan. 16, 2003 *Ex Parte* Letter at 7 ("It is a virtual certainty, however, that facilities used to provide non-switched services between two points in a LATA are used to provide significant amounts of 'local' voice or data traffic."). Where there is no single customer premises, such as where the traffic from multiple DS1 wireline end-user loops are aggregated onto a DS3 transport facility, the point of aggregation will serve as the customer premises for the purpose of this requirement.

[1843] Letter from Steven A. Augustino, Counsel for SNiP LiNK, to William Maher, Bureau Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1 (filed Feb. 5, 2003). This definition would include the installation of incumbent LEC equipment at the premises of a competitive LEC or any other entity not affiliated with that incumbent LEC, regardless of whether the incumbent LEC has a cage.

[1844] For example, an EEL connected to a third-party entrance facility originating in that third-party's section 251(c)(6) collocation would satisfy the collocation requirement.

[1845] *See supra* Part VI.C. (finding that carriers are not impaired without access to inter-network transmission facilities (entrance facilities) and implementing triggers for states to make further findings of non-impairment).

[1846] *See supra* Part VII.B.

606. Although at least one carrier contends that a collocation requirement would fail to recognize an alternative network arrangement that carries local voice and other services,[1847] we find that collocation is a necessary threshold to prevent providers of non-qualifying services from improperly gaining access, and that the exclusion of qualifying voice service would be minimal.[1848] We acknowledge the difficulties in anticipating every possible configuration or arrangement of a provider of qualifying services, but our approach has the advantage of relatively easy verification by leveraging the current legal commitments necessary to provide qualifying service.

607. *Interconnection*. As an additional indicator of providing local voice service, we find that each EEL circuit must be served by an interconnection trunk in the same LATA as the customer premises served by the EEL, and that for every 24 DS1 EELs or the equivalent, the requesting carrier must maintain at least one active DS1 interconnection trunk for the exchange of local voice traffic. As a further safeguard against gaming, where a requesting carrier strips off the calling party number (CPN) on calls exchanged over the interconnection trunk, that trunk shall not be counted towards meeting the trunk/EEL ratio.[1849] The costs and difficulties of network configuration necessary to satisfy the interconnection and collocation requirements minimize the potential for these safeguards to be gamed; only a bona fide provider of qualifying local services would undertake these measures, all of which are a necessary precondition to compete directly against the incumbent LEC's voice service.[1850]

608. The 24-to-1 EEL to interconnection trunk ratio provides a reliable gauge that the competitive LEC exchanges local traffic with the incumbent LEC in a manner that indicates that it is a bona fide provider of local voice service.[1851] One incumbent LEC claims that even at full

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[1847] NewSouth states that in certain instances, it procures a DS1 loop from the incumbent LEC which terminates on the incumbent LEC's main distribution frame at the central office. Under this arrangement, NewSouth purchases a cross-connect to the incumbent LEC's multiplexing equipment, which is connected to a channel facility assignment (CFA) block and then connected to incumbent LEC or third party backhaul to NewSouth's switch. NewSouth Comments at 43. NewSouth characterizes the CFA block it purchases from the incumbent LEC tariff as a "POP."

[1848] Indeed, even NewSouth notes that most of the local loops that it purchases from incumbent LECs terminate at a NewSouth collocation. NewSouth Comments at 42. Other competitive LECs inform us that a collocation requirement would not present a barrier to many competitive LECs using EELs today. *See*, *e.g.*, ALTS *et al*. Dec. 13, 2002 *Ex Parte* Letter, Attach. at 7. Accordingly, we dismiss the MCI WorldCom Petition for Clarification to the extent that it seeks a rule explicitly stating that incumbent LECs cannot require competitive LECs to collocate in order to obtain EELs. *See* MCI WorldCom Feb. 17, 2000 Petition for Clarification at 24-25.

[1849] *See* SBC/NuVox/Cbeyond/SNiP LiNK EELs *Ex Parte* Letter, Attach. at 3.

[1850] We establish these requirements for purposes of unbundling high-capacity EELs only, and not for the purposes of the ongoing reciprocal compensation proceeding or any other docket.

[1851] The proponents of a proposal that incorporates the 24-to-1 ratio as a safeguard for smaller competitive LECs explain that "the Commission could reasonably conclude that, in its expert judgment, the purchase and use of proportional and bona fide local interconnection capacity for every DS1 EEL (1) demonstrates a carrier's commitment to facilities-based entry into the *local exchange* market in the relevant LATA and (2) indicates a reasonable likelihood that a significant amount of local traffic is carried on given EEL facilities." Cbeyond *et al*. Feb. 4, 2003 *Ex Parte* Letter at 4.

local utilization this ratio allows only for a maximum of four percent local usage and therefore cannot be considered "significant," on the apparent theory that one channel on an interconnection trunk is necessary to serve one voice channel of the 24 channels in a DS1 EEL.[1852] However, proponents of the ratio explain that it has its roots in the general engineering principle that one DS0 interconnection trunk can serve every five local access lines,[1853] so that one active DS1 local service interconnection trunk can serve 24 DS1 EELs that have 5 local voice channels on each EEL. We find that this ratio therefore provides a reasonable proxy for the capacity of interconnection that a bona fide provider of local voice service competing against the incumbent LEC would require.[1854] Moreover, as we explain above in this Part, we base our EEL eligibility criteria on whether a requesting carrier is a bona fide provider of local voice service, and do not retain the temporary threshold of "significant amount of local exchange service" established in the *Supplemental Order*.

609. Verizon asserts that trunks inbound to a competitive LEC frequently carry Internet-bound traffic and are not obtained by the competitive LEC, and that only competitive LEC-outbound trunks should count toward the ratio.[1855] Due to the variety of interconnection arrangements that a bona fide local voice service provider may choose to implement, we do not exclude all one-way inbound trunks as they can be part of a legitimate interconnection arrangement.[1856] However, where a competitive LEC does not arrange for a meaningful exchange of traffic – which must include hand-offs of local voice calls that flow in both directions – those arrangements cannot be attributed towards satisfaction of this criterion. For similar reasons, we also reject Qwest's proposal that a competitive LEC must associate the individual EEL collocation termination point with a local interconnection trunk in the same wire center.[1857] Because a legitimate provider of local voice service may configure its network in

[1852] Letter from Susanne Guyer, Senior Vice President, Federal Regulatory Affairs and Ed Shakin, Vice President and Associate General Counsel, Verizon, to the Honorable Michael Powell, Chairman, FCC, at 4 (dated Feb. 12, 2003) (Verizon Feb. 12, 2003 *Ex Parte* Letter), *in* Letter from Dee May, Assistant Vice President, Verizon to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Feb. 12, 2003).

[1853] Letter from John J. Heitmann, Counsel for SNiP LiNK and NuVox, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 4 (filed Feb. 14, 2003).

[1854] Verizon concedes that establishing a "reasonable" ratio of trunks to EELs, such as 4-to-1, would help shore up this test. Letter from W. Scott Randolph, Director – Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Feb. 14, 2003) (Verizon Feb. 14, 2003 *Ex Parte* Letter). The nature of interconnection trunk concentration, in which five EELs can be served by one interconnection trunk, supports the test we adopt. Furthermore, as the competitive LEC proponents of the SBC/CLEC EELs proposal point out, competitive LEC customers do place calls to each other that never reach the incumbent LEC network, so that the interconnection trunks between a competitive LEC and incumbent LEC do not capture all the local voice traffic that a competitive LEC originates and terminates. Cbeyond *et al*. Feb. 13, 2003 *Ex Parte* Letter at 4.

[1855] Verizon Feb. 12, 2003 *Ex Parte* Letter at 4.

[1856] For example, a competitive LEC may choose to purchase a two-way trunk, or may purchase a one-way trunk and arrange for the incumbent LEC to purchase a one-way trunk in the opposite direction.

[1857] Letter from Cronan O'Connell, Vice President – Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, 96-98, 98-147 at 1 (filed Feb. 13, 2003) (Qwest Feb. 13, 2003 *Ex Parte* Letter).

various ways such that each EEL is not terminated in the same wire center as the interconnection trunk,[1858] adopting such a proposal could impose inefficient traffic engineering requirements. Moreover, our requirement that each EEL must be in the same LATA as the interconnection trunk associated with that EEL adequately ensures that interexchange carriers will not game the criteria by purchasing sham trunks that are remote and unrelated to the EEL circuits that carry local voice traffic.

610. *Local Switching*. We find that each EEL circuit must be served by a Class 5 switch or other switch capable of providing local voice traffic. To ensure that the traffic carried over each EEL is not exclusively non-local, a requesting carrier must certify that the switching equipment is either registered in the LERG as a Class 5 or that it can switch local voice traffic. In adopting this safeguard, we also reject the proposal of certain competitive LECs that we should adopt an eligibility restriction whereby a requesting carrier cannot obtain UNEs on circuits that "are served by switching equipment used exclusively to provide interexchange voice services (registered in the LERG as a Class 4-only switch)."[1859] We are not persuaded that a "switch class" approach based solely on LERG registration is sufficiently linked to our service qualification goals. As the *Supplemental Order Clarification* explained in rejecting a proposal to presume that circuits terminating in a Class 5 switch are exclusively local, switch type does not provide a basis for assuming the traffic type of every terminating circuit.[1860] Our record in this proceeding demonstrates that the proposal to ban termination at a Class 4 switch would be over-exclusive, as at least one party informs us that, in the same manner as other carriers, it can and does provide local service over Class 4 switches and "soft" (or packet) switches.[1861] Moreover, grounding our requirements in the technology of the traditional Class 5 circuit-switched network would create a disincentive to the deployment of micro-switching and the integration of data and voice traffic.[1862] In light of the evolving uses of equipment and innovations, we are not inclined to categorically rule out any carrier on the basis of the class of switches it deploys.[1863]

[1858] For example, a competitive LEC could build a fiber ring that connects two or more incumbent LEC wire centers where EELs terminate, and hub the traffic from those wire centers to an interconnection trunk that connects to only one wire center.

[1859] ALTS *et al*. Dec. 13, 2002 *Ex Parte* Letter, Attach. at 6; ALTS Nov. 14, 2002 *Ex Parte* Letter at 4-5.

[1860] *Supplemental Order Clarification*, 15 FCC Rcd at 9601, para. 25.

[1861] *See* AT&T Apr. 30, 2001 Fea/Taggart Reply Decl. at para. 3 n.1; AT&T Feb. 12, 2003 *Ex Parte* Letter at 12.

[1862] *Collocation Remand Order*, 16 FCC Rcd at 15453, para. 33 (concluding that "multi-functional equipment is designed to enable telecommunications carriers, both incumbent LECs and their competitors, to offer their customers an ever-increasing array of telecommunications services, including advanced services, with ever-increasing efficiency"); *see also*, *e.g.*, Taqua Comments at 2-3 (discussing its development of alternatives to legacy telecommunications networks and equipment in systems that combine traditional end office switching with integrated softswitch functionality and the ability to provide next-generation subscriber services in a single chassis).

[1863] The local switching safeguard we adopt renders irrelevant WorldCom's pending request for a presumption that circuits that terminate on a Class 5 switch are local circuits. *See* WorldCom, Inc. Petition for Waiver, CC Docket (continued….)

611. The record also indicates that, for many carriers the costs of gaming a local switching requirement outweigh the benefit of a reduction in special access payments. For example, WorldCom explains that none of its Class 5 switches provide dedicated access services and that its long distance switches do not provide local service, and that it cannot reconfigure its Class 5 switches to provide dedicated access-based services.[1864]

(iv) Other Service Eligibility Proposals

612. We conclude that none of the other eligibility tests proposed on the record before us is preferable to the indicia of qualifying services that we adopt here. For example, SBC, BellSouth, and Verizon support a continuation of or limited modification to the current safe harbors,[1865] and Qwest proposes a local use restriction requiring a certification that the facility carries at least 51 percent local voice traffic.[1866] As an initial matter, we note that the Commission established the usage restrictions in the safe harbors as a temporary restriction on conversions while the Commission compiled an adequate record to address the legal and policy issues raised in the *Fourth FNPRM*.[1867] They were meant to be a temporary proxy rather than a permanent restriction, and now that we have had practical experience with traffic tests and adequate time to evaluate them and the underlying record in this proceeding, for several reasons we decline to perpetuate current local voice thresholds mandated by safe harbors (2) and (3), or to adopt any proposal based on enumerated percentages of traffic.

613. We agree with Cbeyond that measuring minutes of use is antithetical to the Act's goals of encouraging the provision new technologies and advanced services, because those usage tests could conceivably work only for channelized DS1 providers and would improperly exclude those carriers deploying packetized networks.[1868] Classifying and measuring voice traffic separately from data traffic is incompatible with the integration of voice and data in new

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No. 96-98 at 1, 2, 15 (filed Sept. 12, 2000) (WorldCom Waiver Petition). In addition, we note that favoring a switch-neutral approach could benefit smaller businesses by giving them flexibility to purchase innovative and more efficient switches.

[1864] WorldCom Waiver Petition at 9 ("WorldCom cannot reconfigure its Class 5 switches to carry long-distance traffic without restructuring large portions of its network and related systems and process infrastructure, including its diverse customer and carrier billing, ordering, and provisioning systems.").

[1865] *See, e.g.*, BellSouth Jan. 16, 2003 *Ex Parte* Letter at 4; Verizon Feb. 14, 2003 *Ex Parte* Letter at 2 (stating that "[a]ny enhancement to the existing safe harbors must contain a local traffic requirement.").

[1866] Along with a threshold test that a requesting carrier satisfies the 51% local traffic threshold or is the exclusive local provider, Qwest proposes several other architectural safeguards and a marketing requirement. Qwest Feb. 13, 2003 *Ex Parte* Letter, Attach. at 1. BellSouth's proposed requirements include a 50% threshold for local voice traffic. BellSouth Jan. 21, 2003 *Ex Parte* Letter at 6.

[1867] *Supplemental Order Clarification*, 15 FCC Rcd at 9592, para. 8.

[1868] 47 U.S.C. § 157; Cbeyond Dec. 16, 2002 *Ex Parte* Letter at 2-3. Cbeyond delivers a bundle of local, long-distance, and Internet access services by utilizing dynamic bandwidth allocation of a DS1 through packetized IP technology.

packetized networks, and we find that basing our new rules on the distinction between voice and data would inhibit this new technology. Moreover, mandating thresholds based upon percentages of qualifying traffic would penalize technological advancements in voice compression, and have the perverse effect of disqualifying the most efficient and innovative deployment of voice technology.[1869]

614. In addition, the record demonstrates that requiring competitors to ascertain and certify to traffic percentages is burdensome and difficult to administer. This has been the case even in the context of converting an existing customer facility from special access to UNEs, and therefore would be even more difficult in the context of initiating service over newly-provisioned circuits.[1870] More specifically, because the carrier providing service does not control customer calling patterns, and local usage can fluctuate day to day or month to month, requiring competitors to certify to future customer use as a precondition to obtaining a UNE puts them in an untenable position.[1871] Although some carriers have been able to measure and categorize their traffic sufficiently to certify to these safe harbors,[1872] many other competitive LECs report that the safe harbor regime is burdensome and unworkable because they lack sufficient information to make the necessary certification at the time the EEL is requested, and have no feasible way to obtain the necessary information going forward to ensure continued compliance.[1873] Further, many competitive LECs allege that incumbent LECs have misconstrued the auditing process and improperly denied competitors' self-certifications.[1874] Although the D.C. Circuit upheld the safe harbors as interim measures, due to the measuring difficulties and potential for burdensome

[1869] *See, e.g.*, Cbeyond Dec. 16, 2002 *Ex Parte* Letter at 3.

[1870] For example, AT&T explains that because requesting carriers typically order backhaul infrastructure facilities that are not immediately placed in service, "such facilities are not identified with any specific customers and carry no traffic" and thus "it is not even possible to tell which of them would be used to provide any particular type of traffic." Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, and 98-147 at 2 (filed Jan. 16, 2003).

[1871] *See, e.g.*, Letter from Ross A. Buntrock, Counsel for e.spire, to Magalie R. Salas, Secretary, FCC, CC Docket No. 96-98, Attach. at 9 (filed Apr. 19, 2000) ("e.spire can commit to channels carrying local traffic, but e.spire cannot predict the extent to which a given customer's T-1s will carry local traffic"); WorldCom Waiver Petition at 14 ("it is impossible to predict how many switched access long-distance calls a particular customer might make or receive in the aggregate on all of the local channels provided by WorldCom.").

[1872] *CompTel*, 309 F.3d at 17.

[1873] *See, e.g.*, CompTel Comments at 99 n.206; AT&T Comments at 164 (contending that the circuit-by-circuit certification process is "inherently unworkable because CLECs' systems – including AT&T's – are not built to provide the kind of data necessary to support such record keeping requirements"); AT&T Jan. 16, 2003 *Ex Parte* Letter at 2 ("Thus, it is not even possible to tell which [facilities] would be used to provide any particular type of traffic. Accordingly, any attempt to isolate 'UNEs' to 'local' traffic and 'services (or elements that are not UNEs)' to 'non-local' traffic would be impossible."); Cbeyond *et al*. Feb. 13, 2003 *Ex Parte* Letter at 3 (noting that the measurement requirements contained in the usage-based qualification criteria of safe harbors (2) and (3) require additional circuit-specific engineering and monitoring).

[1874] *See, e.g.*, ALTS *et al*. Comments at 100; NuVox Petition at 1.

audits inherent to traffic thresholds, we conclude that these usage restrictions are inferior to those we adopt here.[1875]

615. To recognize the increasing market demand for diverse network infrastructure and for other reasons, we also do not perpetuate safe harbor (1), which allowed a carrier to convert special access circuits to EELs upon certification that it is the "exclusive" provider of local exchange service. As competitive carriers inform us, many customers seek multiple local carriers to ensure connectivity in the event of temporary constraints or problems[1876] as well as to apply competitive pressure,[1877] and we are reluctant to adopt rules that encourage carriers to obtain commitments contrary to the market trend towards diversity, or that add additional layers of regulation to the customer-provider relationship.[1878] In addition, because a carrier may certify to exclusivity in good-faith reliance upon a customer's misrepresentation that it has only one local service provider, or that subscribes to a second local service provider at a later time, this safe harbor presents significant difficulties in administration.[1879]

616. We also reject the joint proposal from SBC, NuVox, Cbeyond, and SNiP LiNK to subject a carrier with total telecommunications revenues above two percent of total industry local and toll revenues to the *Supplemental Order Clarification* safe harbors, but apply a more limited set of non-usage safeguards to a "smaller CLEC" with revenues below that threshold.[1880] We find that establishing two tiers of eligibility restrictions based on revenue is not tailored to our goals in imposing restrictions of encouraging local competition but minimizing the arbitrage

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[1875] Because we are not extending the safe harbors going forward, we hereby dismiss as moot the petitions for waiver of particular safe harbors filed by ITC^DeltaCom and WorldCom. *See* ITC^DeltaCom Waiver Petition; WorldCom Waiver Petition.

[1876] *See*, *e.g.*, AT&T Feb. 12, 2003 *Ex Parte* Letter at 6 (noting that mid-sized and large business end users "are sophisticated customers that demand flexibility" to adjust the number of providers they use and the amount of service).

[1877] Cbeyond Dec. 16, 2002 *Ex Parte* Letter at 3.

[1878] *See* AT&T Jan. 16, 2003 *Ex Parte* Letter at 6 & n.11 (stating that "it is nearly impossible to get customers to certify what their usage will be on particular facilities," and that "many customers may simply consider it not to be any of the CLEC's business whether they are using other providers.").

[1879] "[E]ven if a CLEC could obtain a representation from a customer that it is the customer's only supplier of local services, there is no reasonable way for a CLEC to determine whether it continues to be the customer's sole supplier over time, other than by continually asking the customer, which is at best difficult and awkward from a marketing perspective, and at worst anticompetitive." AT&T Comments on WorldCom Petition for Waiver, CC Docket No. 96-98 (filed Oct. 2, 2000) at 6-7.

[1880] More specifically, a carrier qualifies as a "smaller CLEC" if "its total telecommunications revenues do not exceed two percent of total telecommunications industry local and toll service revenues, and its gross annual toll service revenues do not exceed two percent of all toll service revenues," based upon the industry revenue figures published most recently by the Wireline Competition Bureau. SBC/NuVox/Cbeyond/SNiP Link Feb. 7, 2003 EELs *Ex Parte* Letter at 3. The total industry local and toll service telecommunications revenues for 2000 were $292.8 billion. *Trends in Telephone Service May 2002 Report* at Table 16.1.

opportunities for providers of non-qualifying services. The proponents of the tiered approach argue that the fixed costs of deploying systems to track and report the mix of traffic over given facilities "have a more significant economic impact on a smaller carrier with smaller overall telecommunications revenues than on larger carriers," and therefore are more likely to affect the entry decisions of smaller carriers.[1881] However, the SBC/NuVox/Cbeyond proposal fails to capture the decision-making process of a competitive LEC entering a market and the potential for gaming. Any cost/benefit analysis should not involve the ability to spread the costs over other revenues, but should be limited to identifying the costs of being able to obtain a specific set of EEL circuits against the benefits of obtaining those circuits.[1882] Similarly, the proponents of this test fail to demonstrate that the costs are "fixed," as they would appear to vary with the number of circuits and customers.[1883] Moreover, the record before us does not support the implementation of any tiered system based upon administrative costs and revenue size because there is no evidence of their sizes, much less of their relationship to each other. As Verizon notes, the proponents of this proposal do not quantify or substantiate the costs and burdens of compliance, and would screen out only the very largest carriers – a carrier with over four billion dollars in revenues would qualify as a "smaller CLEC."[1884]

617. We decline to adopt the requirement proposed by Qwest and BellSouth that the service offered to an end user over a high-capacity EEL must be marketed and sold as a local exchange service, or a bundle of services.[1885] State commissions currently regulate the tariffing and other terms of service of common carrier local voice services, and the practical difficulties of policing carriers' marketing and advertising efforts do not support the initiation of additional regulation. Furthermore, we also find Qwest's proposal to require a requesting carrier to have

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[1881] SBC/NuVox/Cbeyond/SNiP LiNK EELs *Ex Parte* Letter at 3.

[1882] For example, there is no reason that a large interexchange carrier or out-of-region incumbent LEC seeking to obtain a small amount of EEL circuits over the course of a year should be held to a more burdensome standard than a mid-sized competitive LEC seeking to obtain a large amount of EEL circuits. In this instance, the mid-sized carrier has a greater incentive for non-qualifying service arbitrage and a greater benefit from lower UNE rates, yet is held to a lesser compliance standard.

[1883] "The only way to determine whether any *particular* circuit qualifies for conversion to an EEL is to undertake very expensive measurement processes with respect to that circuit. . . . [M]easuring the traffic mix on 1,000 circuits is not materially less expensive *per circuit* than measuring the traffic mix on 100 circuits." AT&T Feb. 12, 2003 *Ex Parte* Letter at 9 (emphasis in original).

[1884] Verizon Feb. 12, 2003 *Ex Parte* Letter at 3; *see also* BellSouth Feb. 13, 2003 *Ex Parte* Letter at 3 (seeking further study of the feasibility and costs of traffic measurement as well as the revenue thresholds). The explanation by the competitive LEC proponents of the proposal that the two percent revenue figure is based on the section 251(f)(2) suspension of certain unbundling obligations is unavailing, as the two percent figure in that section of the Act is based on lines, not revenues; is designed for incumbent LECs, not competitive LECs; and addresses a wholly different set of administrative burdens. Cbeyond *et al*. Feb. 12, 2003 *Ex Parte* Letter at 5.

[1885] *See*, *e.g.*, Qwest Feb. 13, 2003 *Ex Parte* Letter, Attach. at 1; BellSouth Jan. 31, 2003 *Ex Parte* Letter, Attach. 2 at 1.

percent of local use arrangements (PLUs) on file[1886] to be overexclusive, because not all competitive LECs report PLUs on local interconnection trunks, and because it has the same usage measurement problems as those described above.[1887]

618. We conclude that the three criteria we adopt here together comprise the most probative and administratively reasonable indicia of providing qualifying traffic. We reject proposals to permit access to UNEs based upon partial satisfaction of a broader number of indicators.[1888] For example, several carriers propose allowing requesting carriers to obtain UNEs by meeting a subset of a broader menu of compliance indicia, including local telephone number assignment; "offer[ing] local voice, local data and/or Internet access in the LATA;" and the presence of a switch that is not exclusively used to provide long distance service that serves the circuit.[1889] Some of these additional indicia, such as LERG registration of switch class type, are problematic for the reasons we describe above, or are inconsistent with the qualifying service approach that we adopt. Moreover, because some criteria are more essential to providing qualifying service than others, we are not persuaded that an approach permitting the partial satisfaction of a list of factors is superior to our approach of a focused list of mandatory requirements. If a carrier had a local number assignment and collocations but, for some reason,

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[1886] Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 Attach. at 19 (filed Nov. 14, 2002) (Qwest Nov. 14, 2002 *Ex Parte* Letter).

[1887] ALTS *et al*. Dec. 16, 2002 *Ex Parte* Letter, Attach. at 10 (explaining that some competitive LECs use meet-point rather than trunking arrangements).

[1888] We also reject the other proposed iterations of service eligibility restrictions on the record, because they are more attenuated from implementing the goals of our service considerations. For example, NuVox submits a "business plan" test, permitting access to high-capacity UNEs based upon a general determination of whether a competitive LEC offers service in direct competition with incumbent LECs, without regard as to whether specific facilities are used as part of that offering. Letter from John J. Heitmann, NuVox, to Christopher Libertelli, Legal Advisor to Chairman Powell, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2-3 (filed Jan. 15, 2003) (NuVox Jan. 15, 2003 *Ex Parte* Letter). We expressly reject above such a business strategy-specific notion of impairment. *See supra* Part V.B.1.

[1889] For instance, a group of carriers propose that circuits be made available as UNEs upon certification by a requesting carrier that at least two of the following five compliance criteria are met:

> the circuit is connected to a collocation in an ILEC end office; or
> the CLEC has active local interconnection trunks with the ILEC in the LATA; or
> the CLEC offers local voice, local data and/or Internet access in the LATA; or
> the CLEC assigns a local telephone number associated with the circuit; or
> the circuit is not served by a switch that is used exclusively to provide long distance service.

Letter from John J. Heitmann, Counsel for Nuvox, SNiP LiNK, Xspedius and KMC Telecom, to Michelle Carey, Chief, Competition Policy Division, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 5-6 (filed Jan. 17, 2003). Other carriers have suggested modified versions of this approach. *See, e.g.*, NuVox Jan. 15, 2003 *Ex Parte* Letter at 3-4 (proposing a "3 of 5" standard or a "2 plus 1 of 3" standard, based on additional compliance with one of two or more alternative criteria); XO Feb. 5, 2003 *Ex Parte* Letter, Attach. at 4 (proposing that four out of five criteria must be met).

no longer had a valid certification to provide service or local interconnection, that carrier should not be eligible for a high-capacity EEL facility. We find that requiring all requesting carriers seeking high-capacity EELs to satisfy the same three categories of criteria provides predictability and certainty, and will ensure that the audit process is more easily administered and, therefore, less costly to both incumbent LECs and competitors.

619. Finally, we do not endorse the requests advanced by some incumbent LECs for additional dialogue on architectural solutions with the goal of a collaborative resolution.[1890] In the many months since the issuance of the temporary restrictions of the *Supplemental Order Clarification*, as well as the issuance of the *January 24, 2001 Public Notice*, and the *Triennial Review NPRM*, the Commission has amassed through numerous pleadings, *ex parte* meetings and an industry roundtable a considerable record of the pragmatic difficulties of the current safe harbors and the risk of conversions.[1891] Now that we have answered the questions regarding service-by-service analysis that led to the interim safe harbors, we conclude that we have a sufficient record to resolve eligibility issues by issuing findings of the appropriate criteria, and that further delay would retard the development of local competition.

C. Certification and Auditing

1. Background

620. In order to allow carriers meeting the safe harbors set forth in the *Supplemental Order Clarification* to convert tariffed loop-transport combinations to UNE rates, the Commission established a framework of self-certification and auditing.[1892] The Commission declined to identify precise terms of certification, but recognized that a letter sent to the incumbent LEC is a practical method.[1893] Further, upon receiving a request from a requesting

[1890] BellSouth Feb. 13, 2003 *Ex Parte* Letter at 1-3 (contending also that "further industry dialogue in a less rushed atmosphere is likely to result in an improved and more focused proposal"); Verizon Feb. 12, 2003 *Ex Parte* Letter at 4 (asking for more time for various parties to analyze proposals and provide input to the Commission to avoid unintended and unanticipated consequences); Letter from William P. Barr, Verizon, to Michael K. Powell, Chairman, FCC, *in* Letter from Ann D. Berkowitz, Project Manager – Federal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Feb. 6, 2003) (Verizon Feb. 6, 2003 Barr *Ex Parte* Letter) (asking for the Commission to obtain comment on the various proposals).

[1891] Several parties note that the issues associated with access to EELs are not new and do not warrant further delay. *See*, *e.g.*, Letter from John J. Heitmann, Counsel for NuVox and SNiP LiNK, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Feb. 12, 2003) (noting that EEL access issues have been extensively vetted in the *Triennial Review* proceeding and associated proceedings); AT&T Feb. 12, 2003 *Ex Parte* Letter at 4 (arguing that "the Bells have now had *years* to submit evidence supporting use restrictions generally and the interim rules in particular") (emphasis in original).

[1892] *Supplemental Order Clarification*, 15 FCC Rcd at 9602-04, paras. 28-33.

[1893] *Id*. at 9602-03, para. 29.

carrier certifying to meeting one of the safe harbors, the incumbent LEC should immediately process the conversion.[1894]

621. The Commission also found that, to confirm reasonable compliance with the local usage requirements in that Order, incumbent LECs may conduct limited audits only to the extent reasonably necessary to determine a requesting carrier's compliance with the local usage options identified by the carrier.[1895] The Commission emphasized "that incumbent LECs may not require a requesting carrier to submit to an audit prior to provisioning combinations of unbundled loop and transport network elements."[1896] Moreover, the Commission concluded that "audits will not be routine practice, but will only be undertaken when the incumbent LEC has a concern that a requesting carrier has not met the criteria for providing a significant amount of local exchange service."[1897] Relying upon broad agreement between incumbent and competitive LECs in that proceeding on audit procedures, and to reduce the burden on requesting carriers, the Commission set forth additional principles providing competitors with notice, limiting the frequency of audits, and establishing practical recordkeeping requirements.[1898]

[1894] *Id*. at 9603-04, para. 31.

[1895] *Id*. at 9602-03, para. 29

[1896] *Id.* at 9603-04, para. 31.

[1897] *Id*. at 9603-04 n.86.

[1898] The Commission found "that incumbent LECs must provide at least 30 days written notice to a carrier that has purchased [an EEL] that it will conduct an audit;" "may not conduct more than one audit of the carrier in any calendar year unless an audit finds non-compliance;" and that when "an incumbent LEC provides notice of an audit to the affected carrier, it should send a copy of the notice to the Commission" so the Commission can monitor the implementation. These carriers also agreed that incumbent LECs requesting an audit should hire and pay for an independent auditor to perform the audit, and that the competitive LEC should reimburse the incumbent LEC if the audit uncovers non-compliance with the local usage options. The Commission also stated its expectation "that requesting carriers will maintain appropriate records . . . to support their local usage certification," but emphasized "that an audit should not impose an undue financial burden on smaller requesting carriers that may not keep extensive records," and found that, "in the event of an audit, the incumbent LEC should verify compliance for these carriers using the records that the carriers keep in the normal course of business." *Supplemental Order Clarification* at 9603-04, paras. 31-32.

On May 17, 2002, NuVox filed a Petition for Declaratory Ruling in Docket No. 96-98 identifying certain auditing issues, and seeking further declaration from the Commission regarding auditing procedures. *Pleading Cycle Established for Comments on NuVox, Inc. Petition for Declaratory Ruling*, Public Notice, CC Docket No. 96-98, DA 02-1302, Public Notice (rel. June 3, 2002). Among other relief, NuVox requests that the Commission declare that an independent LEC must provide requesting carrier proof of the independence of the third party auditor, and that competitive LECs must reimburse the incumbent LEC for only the *pro rata* share of the circuits found to be non-compliant. NuVox and other carriers make reference to those pleadings in their comments to the instant proceeding, and we address the relevant portions of the responsive pleadings in this Order.

2. Discussion

622. We adopt certification and auditing procedures comparable to those established in the *Supplemental Order Clarification* for our service eligibility criteria, and tailor the substantive requirements to our eligibility restrictions, as set forth below. Although the bases and criteria for the service tests we impose in this Order differ from those of the *Supplemental Order Clarification*, we conclude that they share the basic principles of entitling requesting carriers unimpeded UNE access based upon self-certification, subject to later verification based upon cause, are equally applicable. Significantly, because the eligibility criteria we adopt in this Order are based upon indicators such as collocation more easily verified than traffic measurement or categorization of the safe harbors, we anticipate that these procedures can effectively limit UNE access to bona fide providers of qualifying service without imposing undue burdens upon them.

a. Certification

623. We conclude that requesting carrier self-certification to satisfying the qualifying service eligibility criteria for high-capacity EELs is the appropriate mechanism to obtain promptly the requested circuit, and consistent with our findings of impairment.[1899] A critical component of nondiscriminatory access is preventing the imposition of any undue gating mechanisms that could delay the initiation of the ordering or conversion process. Unlike the situation before the Commission when it issued the *Supplemental Order Clarification*, which only addressed EEL conversions, new orders for circuits are subject to the eligibility criteria. Due to the logistical issues inherent to provisioning new circuits, the ability of requesting carriers to begin ordering without delay is essential.[1900]

624. Before accessing (1) a converted high-capacity EEL, (2) a new high-capacity EEL, or (3) part of a high-capacity commingled EEL as a UNE, a requesting carrier must certify to the service criteria set forth in Part VII.B.2.b in order to demonstrate that it is a bona fide provider of qualifying service. We do not specify the form for such a self-certification, but we readopt the Commission's finding in the *Supplemental Order Clarification* that a letter sent to the incumbent LEC by a requesting carrier is a practical method.[1901]

[1899] No certification is necessary for requesting carriers to obtain access to loops, transport, subloops, and other stand-alone UNEs, as well as EELs combining lower-capacity loops, although carriers must provide a qualifying service over those UNEs to obtain them. *See supra* Part VII.B.

[1900] If a requesting carrier certifies that it will provide qualifying services over high-capacity EELs in accordance with the Commission's rules, an incumbent LEC that wishes to challenge the certification may not engage in self-help by withholding the facility in question. The success of facilities-based competition depends on the ability of competitors to obtain the unbundled facilities for which they are eligible in a timely fashion. Thus, an incumbent LEC that questions the competitor's certification may do so by initiating the audit procedures set forth below.

[1901] *Supplemental Order Clarification*, 15 FCC Rcd at 9602-03, para. 29.

b. Auditing

625. As a threshold matter, we set forth basic principles regarding carriers' rights to undertake and defend against audits. However, we recognize that the details surrounding the implementation of these audits may be specific to related provisions of interconnection agreements or to the facts of a particular audit, and that the states are in a better position to address that implementation.[1902] For example, to the extent that the parties dispute the definition of an "independent" auditor and whether a given party satisfies the test for independence, the more appropriate forum for this determination is a state commission.[1903]

626. We conclude that incumbent LECs should have a limited right to audit compliance with the qualifying service eligibility criteria. In particular, we conclude that incumbent LECs may obtain and pay for an independent auditor to audit, on an annual basis, compliance with the qualifying service eligibility criteria.[1904] We conclude that an annual audit right strikes the appropriate balance between the incumbent LECs' need for usage information and risk of illegitimate audits that impose costs on qualifying carriers. The independent auditor must perform its evaluation in accordance with the standards established by the American Institute for Certified Public Accountants (AICPA), which will require the auditor to perform an "examination engagement" and issue an opinion regarding the requesting carrier's compliance with the qualifying service eligibility criteria.[1905] We note that, because the concept of materiality governs this type of audit, the independent auditor's report will conclude whether the competitive LEC complied in all material respects with the applicable service eligibility criteria.[1906] Consistent with standard auditing practices, such audits require compliance testing designed by the independent auditor, which typically include an examination of a sample selected in accordance with the independent auditor's judgment.

[1902] *See*, *e.g.*, BellSouth Opposition, CC Docket No. 96-98 at 2 (filed June 3, 2002) (reporting that BellSouth filed a complaint with the Georgia Commission on May 13, 2002 requesting the Georgia Commission to direct NuVox to allow the audit to commence immediately).

[1903] *See* NuVox Petition at 6-7.

[1904] *See* NuVox Petition at 2 (proposing that incumbent LECs obtain and pay for the services of an independent third party auditor).

[1905] Letter from John J. Heitmann, Counsel for NuVox, to Michelle Carey, Chief, Competition Policy Division, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 6 (filed Jan. 10, 2003) (NuVox Jan. 10, 2003 EELs and Auditing *Ex Parte* Letter) (proposing that Commission should require AICPA-compliance auditor to perform such audits). *See* American Inst. of Certified Pub. Accountants, STATEMENTS ON STANDARDS FOR ATTESTATION ENGAGEMENTS NO. 10, at § 6.30 (Jan. 2001) (AICPA ATTESTATION STANDARDS). The AICPA also has standards and other requirements related to standards for determining the independence of an auditor shall govern the audit of requesting carrier compliance.

[1906] AICPA ATTESTATION STANDARDS at §§ 6.36 (explaining concept of materiality), 6.64 (explaining reporting issues related to material noncompliance).

627. To the extent the independent auditor's report concludes that the competitive LEC failed to comply with the service eligibility criteria, that carrier must true-up any difference in payments, convert all noncompliant circuits to the appropriate service, and make the correct payments on a going-forward basis. In addition, we retain the requirement adopted in the *Supplemental Order Clarification* concerning payment of the audit costs in the event the independent auditor concludes the competitive LEC failed to comply with the service eligibility criteria.[1907] Thus, to the extent the independent auditor's report concludes that the competitive LEC failed to comply in all material respects with the service eligibility criteria, the competitive LEC must reimburse the incumbent LEC for the cost of the independent auditor. We expect that this requirement should provide an incentive for competitive LECs to request EELs only to the extent permitted by the rules we adopt herein.

628. Similarly, to the extent the independent auditor's report concludes that the requesting carrier complied in all material respects with the eligibility criteria, the incumbent LEC must reimburse the audited carrier for its costs associated with the audit.[1908] We expect that this reimbursement requirement will eliminate the potential for abusive or unfounded audits, so that incumbent LEC will only rely on the audit mechanism in appropriate circumstances. We further expect that these reimbursement requirements will ensure the audit process (and importantly, the resolution of any issues arising out of any audits) occurs in a self-executing manner with minimal regulatory involvement.

629. Although we do not establish detailed recordkeeping requirements in this Order, we do expect that requesting carriers will maintain the appropriate documentation to support their certifications. For instance, to demonstrate satisfaction of the first category for high-capacity EELs (authorization to provide voice service), we anticipate that state certification would be the most prevalent form of documentation, but that evidence of registration, tariffing, filing of fees, or other regulatory compliance would be adequate where there is no state certification requirement. To verify that the EEL circuit terminates into a section 251(c)(6) collocation, circuit facility assignment on the order would be sufficient supporting evidence.[1909] The local interconnection component of the third criterion can be established after examination of the governing interconnection agreement and the physical circuit connections. We emphasize that these records are only examples of the documentation that carriers should keep, and not intended to be an exhaustive list. Due to the variation in telecommunications systems and technology, and to provide flexibility to competitive LECs in establishing the most efficient

[1907] *Supplemental Order Clarification*, 15 FCC Rcd at 9603-04, para. 31 (requiring competitive LECs to "reimburse the incumbent if the audit uncovers non-compliance with the local usage options.").

[1908] We note that audited carriers should account for the staff time and other appropriate costs for responding to the audit (*e.g.*, collecting data in response to the auditor's inquiries, meeting for interviews, etc).

[1909] *See* Letter from Julia O. Strow, Vice President – Regulatory & Legislative Affairs, Cbeyond, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Jan. 6, 2003).

architectural arrangements to provide local voice service, we do not adopt any of the specific documentation requirements proposed by some carriers in this proceeding.[1910]

D. Modification of Existing Network

1. Background

630. In *Iowa Utilities Board*, the Eighth Circuit held that section 251(c)(3) requires "unbundled access only to an incumbent LEC's existing network – not to a yet unbuilt superior one."[1911] Specifically, the Eighth Circuit explained that incumbent LECs can be required to modify their facilities "to the extent necessary to accommodate interconnection or access to network elements," but cannot be required "to *alter substantially* their networks in order to provide *superior* quality interconnection and unbundled access."[1912]

631. In the *Triennial Review NPRM*, the Commission sought comment on its authority to require incumbent LECs to engage in activities necessary to activate loops that are not currently activated in the network.[1913] The Commission also asked about the extent to which incumbent LECs have an obligation to modify their existing networks in order to provide access to network elements.[1914] Commenters identified several specific issues regarding the interpretation of the Eighth Circuit's holding, most notably in which situations incumbent LECs have responded to an order for high-capacity loop by attaching equipment and facilities to its network, or could issue a "no facilities available" response; whether carriers must remove equipment from a line in order to condition it; and the extent to which specially constructed transmission facilities are subject to unbundling obligations. To resolve these related questions about the scope of the incumbent LEC network that must be unbundled and which modifications constitute "construction," and because they share a fundamental relationship to the definition of the network, we address them together in this section.

2. Discussion

a. Routine Network Modifications to Existing Facilities

632. We require incumbent LECs to make routine network modifications to unbundled transmission facilities used by requesting carriers where the requested transmission facility has

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[1910] *See*, *e.g.*, Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, Attach. at 1 (filed Feb. 13, 2003) (Qwest Feb. 13, 2003 Proposed EELs Safe Harbors *Ex Parte* Letter) (listing proposed documentation requirements, including the Qwest-designated "26 code" for each local interconnection trunk group).

[1911] *Iowa Utils. Bd. v. FCC*, 120 F.3d at 813.

[1912] *Id*. at 813 n.33 (emphasis added).

[1913] *Triennial Review NPRM*, 16 FCC Rcd at 22805, para. 52.

[1914] *Id.* at 22811-12, paras. 65-66.

already been constructed. By "routine network modifications" we mean that incumbent LECs must perform those activities that incumbent LECs regularly undertake for their own customers. Routine modifications, however, do not include the construction of new wires (*i.e.*, installation of new aerial or buried cable) for a requesting carrier. The routine modification requirement that we adopt today resolves a controversial competitive issue that has arisen repeatedly, in both this proceeding and in the context of several section 271 applications, and is designed to provide competitive carriers with greater certainty as to the availability of unbundled high-capacity loops and other facilities throughout the country.

633. Parties in the record disagree where the boundary exists between, on one hand, modifying the loop element to provide competitive LECs with access to all the functions of that element,[1915] and, on the other, requiring substantial alteration of the loop facility to provide superior quality access. In particular, competitive LECs assert that certain incumbent LECs have taken an exceedingly narrow interpretation of their obligations to furnish high-capacity loops and request that the Commission clarify the scope of the loop unbundling obligation.[1916] We conclude that incumbent LECs, in provisioning high-capacity loop facilities to competitors, must make the same routine modifications to their existing loop facilities that they make for their own customers. This conclusion is consistent with the Eighth Circuit's ruling. Specifically, requiring incumbent LECs to engage in activities necessary to activate loops that are not currently activated in the network complies with the Eighth Circuit's holding that the obligations imposed by sections 251(c)(2) and 251(c)(3) include modifications to the incumbent LEC's facilities to the extent necessary to accommodate access to existing network elements -- in this case, high-capacity loops.[1917] Were we not to adopt such a requirement, the incumbent LECs would have the ability to dictate the parameters of their unbundling requirements and thereby readily thwart competitors' ability to obtain access to high-capacity loops.

634. Due to the continually evolving and dynamic nature of telecommunications networks, however, we reject the argument that our rule should list the precise electronics that the incumbent LEC must add to the loop in order to transform a DS0 voice-grade loop to an unbundled DS1 loop. Rather, our operating principle is that incumbent LECs must perform all loop modification activities that it performs for its own customers. By way of illustration, we find that loop modification functions that the incumbent LECs routinely perform for their own customers, and therefore must perform for competitors, include, but are not limited to,

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[1915] *See Iowa Utils. Bd. v. FCC*, 120 F.3d at 808-09 (holding that providing access to a network element includes the full functionality of that element).

[1916] *See, e.g.*, NewSouth Reply at 38.

[1917] *Iowa Utils. Bd. v. FCC*, 120 F.3d at 813 n.33. Because the Eighth Circuit struck down the Commission's "superior quality" rules and that decision is final, we conform our regulations accordingly. *See also* NewSouth Reply at 40. NewSouth also proposes that the Commission clarify that "existing facilities" includes incumbent LEC facilities available in the existing service area where the request is made, not just facilities available for the specific origination and termination points for the element requested. NewSouth Comments at 40. Rather than adopting such a geographic test, however, we conclude that the routine modification requirement described herein more accurately defines an incumbent LEC's responsibilities, and, further, is more administratively practical.

rearrangement or splicing of cable;[1918] adding a doubler or repeater;[1919] adding an equipment case;[1920] adding a smart jack;[1921] installing a repeater shelf; adding a line card; and deploying a new multiplexer or reconfiguring an existing multiplexer.[1922]

635. The record reveals that attaching routine electronics, such as multiplexers, apparatus cases, and doublers, to high-capacity loops is already standard practice in most areas of the country.[1923] Moreover, performing such functions is easily accomplished. The record shows that requiring incumbent LECs to make the routine adjustments to unbundled loops discussed above that modify a loop's capacity to deliver services in the same manner as incumbent LECs provision such facilities for themselves is technically feasible[1924] and presents

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[1918] Letter from Stephen W. Crawford, General Counsel, El Paso Global Networks to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 2 (filed Dec. 17, 2002) (El Paso Dec. 17, 2002 *Ex Parte* Letter).

[1919] Although a digital signal loses its shape as it transverses a circuit due to noise and attenuation, a repeater can read the weakened and distorted signal and retransmit it at the proper level of signal strength. NEWTON'S TELECOM DICTIONARY 623 (defining "repeater"). A DS1 loop generally requires line repeaters to be placed approximately every mile along its cable route in order to maintain signal integrity. Virginia State Corporation Commission Staff Reply at 4.

[1920] Line repeaters are housed in apparatus cases, and cable pairs are either spliced into a case to serve a specific end user via an assigned service terminal, or are pre-assigned along a route with splicing occurring at or near the end user's service terminal in order to access the needed cable pairs. *Id*. at 4-5.

[1921] Mpower Reply at 30. A smart jack is a device installed on the customer premises that tests the integrity of DS1 circuits, and is activated remotely from the central office without having to dispatch a technician to the site. NEWTON'S TELECOM DICTIONARY 677 (18th ed. 2002) (defining "smart jack").

[1922] Letter from Mary C. Albert, Vice President – Regulatory and Interconnection, Allegiance, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (dated Sept. 30, 2002) (Allegiance Sept. 30, 2002 *Ex Parte* Letter), *in* Letter from Mary C. Albert, Vice President – Regulatory Interconnection, Allegiance, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Oct. 1, 2002); El Paso Dec. 17, 2002 *Ex Parte* Letter, Declaration of Javier Galindo (El Paso Galindo Decl.) at paras. 10, 15; *see also Petitions of WorldCom, Inc., Cox Virginia Telcom, Inc., and AT&T Communications of Virginia, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes With Verizon Virginia, Inc. and For Expedited Arbitration*, CC Docket Nos. 00-218, 00-249, 00-251, 17 FCC Rcd 27039, 27283 n.1658 (WCB 2002) ("Verizon cannot refuse to provision a particular loop by claiming that multiplexing equipment is absent from the facility. In that case, Verizon must provide the multiplexing equipment, because the requesting carrier is entitled to a fully functioning loop."); *see also* Letter from Patrick J. Donovan, Counsel for Cbeyond, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (filed Nov. 23, 2002) (Cbeyond Nov. 23, 2002 *Ex Parte* Letter).

[1923] The record reflects that different incumbent LECs perform varying degrees of network modifications when provisioning unbundled high-capacity loops. *See, e.g.*, Letter from Patrick J. Donovan, Counsel for Cbeyond, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (Cbeyond Dec. 16, 2002 No Facilities *Ex Parte* Letter), Declaration of Richard Batelaan at paras. 8-9 (filed Dec. 16, 2002) (discussing the different "no facilities" policies of Qwest, SBC, and Verizon).

[1924] *See* Allegiance Sept. 30, 2002 *Ex Parte* Letter at 5, Attach. 4 (citing Verizon Maryland, Inc.'s response to a data request stating "[g]enerally speaking, Verizon MD does not reject DS1 requests for end users due to no facilities.").

no significant operational issues.[1925] In fact, the routine modifications that we require today are substantially similar activities to those that the incumbent LECs currently undertake under our line conditioning rules.[1926] Specifically, based on the record, high-capacity loop modifications and line conditioning require comparable personnel; can be provisioned within similar intervals; and do not require a geographic extension of the network.[1927]

636. We do not find, however, that incumbent LECs are required to trench or place new cables for a requesting carrier. Requests for altogether new transmission facilities, whether serving an existing customer or along a new route, demand far more planning, engineering, and technical resources than the routine modifications discussed above, and include rights-of-way issues, greater demands for on-site construction personnel, and substantial periods of actual construction.[1928] We believe, however, the physical work and technical requirements required to perform routine modifications described above do not implicate these concerns and are therefore encompassed in the incumbent LECs' unbundling requirements.[1929]

637. Further, activities such as accessing manholes, splicing into existing cable, deploying bucket trucks to reach aerial cable, and installing equipment casings do not render a modification a substantial alteration or constitute the provision of a superior unbuilt network.[1930] Rather, these activities can be described as comprising the "routine, day-to-day work of managing an [incumbent LEC's] network."[1931] That is, rather than encompassing extensive

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[1925] *See* Allegiance Sept. 30, 2002 *Ex Parte* Letter at 2.

[1926] *See infra* Part VII.D.2.b. Specifically, in the *UNE Remand Order*, the Commission held that incumbent LECs must remove certain devices, such as bridge taps, low-pass filters, and range extenders, from basic copper loops in order to enable the requesting carrier to offer advanced services. *UNE Remand Order*, 15 FCC Rcd at 3775, para. 172. Although Verizon rejects unbundled DS1 loop orders where there is no apparatus or doubler case on the loop claiming that installation of these cases is "complex" – requiring a truck roll to either dig up existing cable or a "bucket" to reach aerial cables in order to splice open the cable sheath – it must perform similar activities to accommodate line conditioning requests. *See* Letter from W. Scott Randolph, Director – Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 4-5 (filed Oct. 18, 2002) (Verizon Oct. 18, 2002 No Facilities *Ex Parte* Letter); *see also* El Paso Galindo Decl. at para. 14 ("When an ILEC outside plant technician conditions a copper loop for xDSL by removing bridged tap and Load Coils in the loop, the work is generally performed by the same staff that performs rearrangement for DS1 services.").

[1927] *See* Cbeyond Nov. 23, 2002 *Ex Parte* Letter at 3. Furthermore, these routine modifications are generally provided by incumbent LECs within relatively short intervals. Mpower Reply at 29 (stating that Verizon's customers "[i]n almost every instance . . . can order service and have it installed within one week.").

[1928] Verizon Oct. 18, 2002 No Facilities *Ex Parte* Letter at 1-6.

[1929] *See* Cbeyond Dec. 16, 2002 *Ex Parte* Letter at 2-3 (describing the routine tasks that Verizon performs to operate, maintain, and repair its network).

[1930] *See* Verizon Oct. 18, 2002 No Facilities *Ex Parte* Letter at 1-6.

[1931] Letter from Jake E. Jennings, NewSouth, to Christopher Libertelli, Legal Advisor, Office of Chairman Michael K. Powell, FCC, CC Docket Nos. 01-338, 96-98 at 3 (filed Nov. 6, 2002) (NewSouth Nov. 6, 2002 *Ex Parte* Letter). While we largely agree with NewSouth's proposed definition of UNE availability, we believe that adopting a definition that attempts to list various pieces of electronics provides an opportunity for gaming by incumbent (continued….)

delays caused by, for example, securing permits or rights-of-way, constructing new manholes or conduits, or installing altogether new terminals, the routine modifications described above generally require incumbent LEC personnel to visit sites within the existing and readily accessible incumbent LEC architecture. We therefore conclude that the local loop definition includes routine modifications and we require incumbent LECs to add types of electronics that incumbent LECs ordinarily attach to a loop for a customer requiring a DS1 loop, even if such electronics are not attached to a particular loop.[1932]

638. Several carriers comment that the difficulties in accessing facilities includes access to dark fiber loops and transport, as well as to lit DS1 loops.[1933] The requirement we establish for incumbent LECs to modify their networks on a nondiscriminatory basis is not limited to copper loops, but applies to all transmission facilities, including dark fiber facilities. For example, several state commissions have rejected incumbent LEC attempts to deny competitive access to dark fiber where a competitive LEC seeks access to the network in the same manner as the incumbent LEC.[1934] Incumbent LECs must make the same routine modifications to their existing dark fiber facilities for competitors that they make for their own customers – including the work done on dark fiber to provision lit capacity to end users. Although the record before us does not support the enumeration of these activities in the same detail as we do for lit DS1 loops, we encourage state commissions to identify and require such modifications to ensure nondiscriminatory access.

639. We reject Verizon's argument that the Commission lacks authority to compel incumbent LECs to deploy new equipment to meet the demands of a competitive carrier.[1935]

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LECs, *i.e.*, if each and every piece of equipment that modifies a DS0 loop to a DS1 loop is not listed, the incumbent LEC may reject an order for no facilities available. *Id*. at 6-7. Instead, in addition to providing several examples of routine modifications incumbent LECs are required to provide we describe various factors, such as personnel requirements and timeliness, that determine whether the modification is routine or provides access to a superior quality network.

[1932] We agree with Mpower that requiring incumbent LECs to attach electronics that they routinely provide to their customers does not constitute the provision of a new network element. Mpower Reply at 29-30; *see also* Covad Comments at 45; NewSouth Comments at 19-20; ALTS *et al*. Comments at 116-17; Sprint Comments at 20, 26.

[1933] *See*, *e.g.*, Dominion Jan. 28, 2003 Aamoth *Ex Parte* Letter at 5 (claiming that incumbent LECs change their standard loop provisioning practice by laying new loop fiber without terminating it in order to avoid compliance with unbundling obligations).

[1934] *See*, *e.g.*, *New England Telephone and Telegraph Company d/b/a NYNEX*, Decision D.P.U./D.T.E. 96-73/74, 96-75, 96-80/81, 96-83, 96-94 – Phase 3, at 48 (Mass. DTE Dec. 4, 1996) ("We therefore see little distinction between a splice performed on behalf of NYNEX and that performed for another carrier.").

[1935] Verizon Comments at 62; *see also* Verizon Reply at 99 n.310; Letter from Susanne Guyer, Senior Vice President, Federal Regulatory Affairs, Verizon, to William F. Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-2 (filed Jan. 17, 2003), *in* Letter from Susanne Guyer, Senior Vice President, Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC (dated Jan. 17, 2003) (Verizon Jan. 17, 2003 Guyer *Ex Parte* Letter). Verizon's policies concerning high-capacity loops have also arisen in context with its section 271 obligations, *i.e.*, checklist item 4 – unbundled local loops. In the *Verizon Pennsylvania 271* proceeding, several competing carriers alleged that Verizon violates the Commission's rules by (continued….)

Verizon contends that the Commission cannot require incumbent LECs to *add* capacity or circuits, including constructing and modifying loops by adding electronics, where these facilities do not already exist.[1936] That is, Verizon argues that these modifications are not necessary to provide access to existing UNEs, they are the "creation of *new or improved* UNEs" that would unlawfully force an incumbent LEC to provide superior quality access.[1937] In particular, Verizon claims that the Commission is barred from requiring incumbent LECs to build a new loop, place new line cards or electronics on a circuit, and provide line conditioning, because these are all "substantial alterations to an ILEC's existing network."[1938] We disagree and, with the exception

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refusing to provide high-capacity loops as UNEs unless all necessary equipment and electronics are present on the line and at the customer's premises. *Application of Verizon Pennsylvania Inc., Verizon Long Distance, Verizon Enterprise Solutions, Verizon Global Networks Inc., and Verizon Select Services Inc. for Authorization to Provide In-Region, InterLATA Services in Pennsylvania*, CC Docket No. 01-138, Memorandum Opinion and Order, 16 FCC Rcd 17419, 17469-70, para. 91 (2001). Ultimately, the Commission was unable to find in the *Verizon Pennsylvania 271* proceeding that Verizon's high-capacity loop policy expressly violates the Commission's unbundling rules. *Id.* at 17470, para. 92 ("We disagree with commenters that Verizon's policies and practices concerning the provisioning of high-capacity loops, as explained to us in the instant proceeding, expressly violate the Commission's unbundling rules."). Instead the Commission relied on its policy that new interpretative disputes concerning the precise content of an incumbent LEC's obligations to its competitors, or disputes that the Commission's rules have not yet addressed and that do not involve *per se* violations of the Act or the Commission's rules, are not appropriately dealt with in the context of a section 271 proceeding. To the extent parties have specific disputes with Verizon's actual practice in implementing its high-capacity loop policies, the Commission explained that such disputes are best addressed in an alternative forum. *Id.* (citing *Verizon Massachusetts Order*, 16 FCC Rcd at 8993, para. 10).

[1936] Verizon states that it will fill a competitive LEC's unbundled high-capacity loop order where "the facilities necessary to provision the service requested exist and are currently available." Verizon Oct. 18, 2002 No Facilities *Ex Parte* Letter at 2. That is, Verizon states that will provision unbundled high-capacity loops where equipment need only be removed, but not when certain equipment must be added. The six situations where Verizon argues it is not required to undertake construction, *i.e.*, where orders are rejected for "no facilities available" are: (1) no available copper spares, (2) no apparatus/doubler case, (3) no central office or remote terminal repeater equipment, (4) no riser cable or buried drop, (5) no fiber or multiplexer (DS1s and DS3s over fiber), or (6) no capacity for the service requested on existing multiplexer (DS1s and DS3s over fiber). *Id.* at 3-7. The percentages of competitive LEC high-capacity loop orders rejected by Verizon between January and June 2002 in the former Bell Atlantic South states for these six "no facilities" situations, respectively, are: 12%, 45.2%, 4.6%, 0.4%, 30.5%, and 3.5%. *Id.*

[1937] Verizon Comments at 63-64 (emphasis in original). Nonetheless, Verizon states that it will make certain changes to available wires in order to provision high-capacity loops. Specifically, in its comments, Verizon states that:

> Verizon's current policy is to add certain electronics to available wire or fiber facilities to fill a [competitive] LEC's order for an unbundled DS1 loop. When Verizon receives an order for an unbundled DS1 loop, it checks whether the required common equipment is installed in the central office and has available ports or slots. If there is capacity, Verizon will install the necessary line cards. Verizon also will cross-connect the common equipment to the wire or fiber facility running to the end user. At the end user's premises, Verizon terminates the DS1 loop in the appropriate NID. This practice goes well beyond Verizon's legal obligations under the Act.

Id. at 64 n.218.

[1938] Verizon Comments at 63.

of constructing an altogether new local loop, we find that requiring an incumbent LEC to modify an existing transmission facility in the same manner it does so for its own customers provides competitors access only to a functionally equivalent network, rather than one of superior quality. Indeed, incumbent LECs routinely add a drop for a second line without objection.[1939] We conclude that with the exception of building a loop from scratch by trenching or pulling cable, because incumbent LECs are able to provide routine modifications to their customers with relatively low expense and minimal delays, requesting carriers are entitled to the same attachment of electronics.[1940] Lastly, to the extent that certain routine network modifications to existing loop facilities affect loop provisioning intervals, contained in, for example, section 271 performance metrics, we expect that states will address the impact of these modifications as part of their recurring reviews of incumbent LEC performance.

640. The Commission's pricing rules provide incumbent LECs with the opportunity to recover the cost of the routine network modifications we require here.[1941] State commissions have discretion as to whether these costs should be recovered through non-recurring charges or recurring charges. We note that the costs associated with these modifications often are reflected in the recurring rates that competitive LECs pay for loops. Specifically, equipment costs associated with modifications may be reflected in the carrier's investment in the network element, and labor costs associated with modifications may be recovered as part of the expense associated with that investment (*e.g.*, through application of annual charge factors (ACFs)). The Commission's rules make clear that there may not be any double recovery of these costs (*i.e.*, if costs are recovered through recurring charges, the incumbent LEC may not also recover these costs through a NRC).[1942]

[1939] We note that it is only with respect to DS1 loops that certain incumbent LECs seem to argue that they are under no obligation to modify loops from their existing condition.

[1940] The record reflects that Verizon provides the routine modifications listed above with minimal delay, in most cases, to their own retail customers. Covad Comments at 51. We also dismiss Verizon's claim that the availability of special access services on a par with Verizon's own retail customers is fully compliant with the Act, and in particular Verizon's recently instituted "procedure under which it voluntarily allows carriers whose UNE orders are rejected for lack of facilities to purchase Verizon's special access service and later convert it to a UNE after a minimum in-service period (provided it meets the conversion criteria established by the Commission)." Verizon Jan. 17, 2003 Guyer *Ex Parte* Letter at 1, 3. We find this policy to be discriminatory on its face.

[1941] *See Local Competition Order*, 11 FCC Rcd at 15847, para. 682 ("Directly attributable forward-looking costs include the incremental costs of facilities and operations that are dedicated to the element. Such costs typically include the investment costs and expenses related to primary plant used to provide that element."); *see also id*. at 15851, para. 691 ("Costs must be attributed on a cost-causative basis. Costs are causally-related to the network element being provided if the costs are incurred as a direct result of providing the network elements, or can be avoided, in the long run, when the company ceases to provide them.").

[1942] 47 C.F.R. § 51.507(e) ("Nonrecurring charges shall be allocated efficiently among requesting telecommunications carriers, and shall not permit an incumbent LEC to recover more than the total forward-looking economic cost of providing the applicable element.").

641. A number of parties filed petitions for reconsideration of the *UNE Remand Order* asking the Commission to find that charges for certain types of network modification (loop conditioning, unbundling of IDLC loops) were inconsistent with the Commission's TELRIC pricing rules.[1943] We deny these petitions. The petitions raise complicated economic and technical issues that the Commission would prefer to address on a more complete and up-to-date record. Accordingly, we will include these issues in the Commission's upcoming proceeding on TELRIC-related issues. In the interim, we leave it to state commissions to decide in the first instance whether a particular cost should be recovered from a competitive LEC through a recurring charge, a non-recurring charge, or not at all, in accordance with the principles identified above.[1944] A state commission could decide, for example, that loop conditioning costs should be recovered through a NRC only in extraordinary situations, such as removing load coils on loops that exceed 18,000 feet in length,[1945] and that any other conditioning costs should be recovered in recurring charges just like other loop maintenance costs.

b. Line Conditioning

642. As noted above, we conclude that incumbent LECs must provide access, on an unbundled basis, to xDSL-capable stand-alone copper loops because competitive LECs are impaired without such loops.[1946] Such access may require incumbent LECs to condition the local loop for the provision of xDSL-capable services.[1947] Accordingly, we readopt the Commission's

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[1943] *See* Petition of MCI WorldCom Feb. 17, 2000 Petition for Reconsideration at 15-18 (loop conditioning); Rhythms Netconnections, Inc. and Covad Communications Company Joint Petition for Reconsideration, CC Docket Nos. 95-185, 96-98 (filed Jan. 21, 2000) (loop conditioning); @Link Networks, Inc. *et al*. Joint Petition for Reconsideration, CC Docket No. 96-98 (filed Feb. 17, 2000) (loop conditioning); McLeodUSA Telecommunications Services, Inc. Petition for Reconsideration, CC Docket No. 96-98 (filed Feb. 17, 2000) (unbundling of IDLC loops).

[1944] Accordingly, we grant WorldCom's Petition for Clarification to the extent it seeks clarification that states have discretion to conclude that loop conditioning costs are not forward-looking costs or that they are more appropriately recovered through recurring charges for the loop. *See* Petition of MCI WorldCom Feb. 17, 2000 Petition for Clarification at 13-15.

[1945] The Commission recognized in the *UNE Remand Order* that "networks built today should not require voice-transmission enhancing devices on loops of 18,000 feet or shorter." *UNE Remand Order*, 15 FCC Rcd at 3784, para. 193.

[1946] *See supra* Part VI.A.4.a.(v)(a).

[1947] In the *UNE Remand Order*, the Commission made clear that incumbent LECs must condition loops to allow requesting carriers to offer advanced services, and identified the removal of bridge taps, load coils, and similar devices as part of this obligation. *UNE Remand Order*, 15 FCC Rcd at 3775, para. 172. The Commission specifically rejected the contention that the Eighth Circuit's holding on "superior quality" overturned the rules requiring incumbents to provide conditioned loops even where the incumbent itself is not providing advanced services to those customers. *Id.* at 3775, para. 173 ("We find that loop conditioning, rather than providing a 'superior quality' loop, in fact enables a requesting carrier to use the basic loop."). The Commission subsequently refined the conditioning obligation to cover loops of any length, to recognize the potential degradation of analog voice service, and to enable incumbent LECs to charge for conditioning loops. *Line Sharing Order*, 14 FCC Rcd 20912, 20951-53, paras. 81-87.

previous line and loop conditioning rules for the reasons set forth in the *UNE Remand Order*.[1948] Line conditioning is necessary because of the characteristics of xDSL service – that is, certain devices added to the local loop in order to facilitate the provision of voice service disrupt the capability of the loop in the provision of xDSL services. In particular, bridge taps, load coils, and other equipment disrupt xDSL transmissions.[1949] Because providing a local loop without conditioning the loop for xDSL services would fail to address the impairment competitive LECs face, we require incumbent LECs to provide line conditioning to requesting carriers.

643. Line conditioning does not constitute the creation of a superior network, as some incumbent LECs argue.[1950] Instead, line conditioning is properly seen as a routine network modification that incumbent LECs regularly perform in order to provide xDSL services to their own customers. As noted above, incumbent LECs must make the routine adjustments to unbundled loops to deliver services at parity with how incumbent LECs provision such facilities for themselves. Similarly, in order to provide xDSL services to their own customers, incumbent LECs condition the customer's local loop.[1951] Thus, line conditioning is a term or condition that incumbent LECs apply to their provision of loops for their own customers and must offer to requesting carriers pursuant to their section 251(c)(3) nondiscrimination obligations. We therefore agree with the commenters that argue that requiring the conditioning of xDSL-capable loops is not mandating superior access,[1952] and reject Verizon's renewed challenge that the Commission lacks authority to require line conditioning.[1953] Competitors cannot access the loop's inherent "features, functions, and capabilities" unless it has been stripped of accretive devices. We therefore view loop conditioning as intrinsically linked to the local loop and include it within the definition of the loop network element.[1954]

[1948] We note that the *USTA* court did not expressly opine on the Commission's line and loop conditioning rules.

[1949] *See* Telcordia Technologies, Inc. NOTES ON DSL at 2-10 to 2-16 (describing limitations of xDSL service); Padmanand Warrier and Balaji Kumar, xDSL ARCHITECTURE 95-97 (2000) (describing the effect of bridge taps, load coils, various gauges of copper cable, and analog/digital conversions on xDSL transmissions); *see also Line Sharing Order*, 14 FCC Rcd at 20951-52, para. 83.

[1950] *See* Verizon Jan. 17, 2003 Guyer *Ex Parte* Letter at 3-4 (arguing that line conditioning constitutes the creation of a superior network).

[1951] We note that all BOCs offer xDSL service throughout their service areas. *See, e.g.*, Verizon, *Verizon Online DSL for Your Home Including Personal or Office Use and Price Packages for DSL*, <http://www22.verizon.com/ForHomeDSL/channels/dsl/forhomedsl.asp> (describing Verizon's xDSL offerings for residential customers).

[1952] *See*, *e.g.*, NuVox *et al*. Reply at 43; WorldCom Reply at 42-43.

[1953] Verizon Comments at 63 (arguing that "loop conditioning plainly is an unlawful requirement to provide a superior quality network."). More specifically, we do not accept Verizon's contention that line conditioning is a "significant construction activity" that provides a "*superior* quality network facility." Jan. 17, 2003 Verizon Guyer *Ex Parte* Letter at 4.

[1954] As the Commission noted in the *UNE Remand Order*, the Eighth Circuit expressly affirmed the Commission's determination that section 251(c)(3) requires incumbent LECs to provide modifications to their facilities in order to (continued….)

644. As a final matter, we determine that requiring incumbent LECs to perform line conditioning advances our section 706 goals.[1955] Specifically, line conditioning speeds the deployment of advanced services by ensuring that competitive LECs are able to obtain, as a practical matter, a local loop UNE with the features, functions, and capabilities necessary to provide broadband services to the mass market. Consistent with our analysis for mass market loops, then, we conclude that the unbundling obligations of incumbent LECs include conditioning loops for the provision of xDSL services.

c. Special Construction of Transmission Facilities

645. We do not require incumbent LECs to construct transmission facilities so that requesting carriers can access them as UNEs at cost-based rates. As the Commission concluded in the *UNE Remand Order*, although "an incumbent LEC's unbundling obligation extends throughout its ubiquitous transport network, including ring transport architectures, we do not require incumbent LECs to construct new transport facilities to meet specific competitive LEC point-to-point demand requirements for facilities that the incumbent LEC has not deployed for its own use."[1956] Although we recognize that our conclusion in this Order not to unbundle inter-network transport facilities, including circuits from the incumbent LEC network to CMRS to base stations and mobile switching centers, will diminish the significance of this issue for many commenters, the issues surrounding special construction play an important role in infrastructure growth for new channel termination and transport facilities.

646. At present, incumbent LECs generally offer to build out transmission facilities to a customer's specific needs through the special construction provisions of their special access tariffs or a stand-alone special construction tariff.[1957] These provisions typically contain NRCs and termination liabilities over a fixed term to ensure compensation in the event that the customer defaults or otherwise cancels its contract prior to the expiration of its term commitment.[1958] Because our unbundling rules do not require incumbent LECs to be construction agents for requesting carriers, this limitation on the incumbent LEC unbundling

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accommodate access to network elements. *UNE Remand Order*, 15 FCC Rcd at 3775, para. 173 (citing *Iowa Utils. Bd. v. FCC*, 120 F.3d at 813, n.33). With respect to making routine network modifications, the Eighth Circuit stated: "Although we strike down the Commission's rules requiring incumbent LECs to alter substantially their networks in order to provide superior quality interconnection and unbundled access, we endorse the Commission's statement that 'the obligations imposed by sections 251(c)(2) and 251(c)(3) include modifications to incumbent LEC facilities to the extent necessary to accommodate interconnection or access to network elements.'" *Iowa Utils. Bd. v. FCC*, 120 F.3d at 813, n.33 (citing *Local Competition Order*, 11 FCC Rcd at 15602-03, para. 198).

[1955] As we noted in our unbundling analysis for mass market loops, section 706 informs the manner in which we craft our unbundling obligations. *See supra* Part VI.A.4.a.(iv).

[1956] *UNE Remand Order*, 15 FCC Rcd at 3843, para. 324.

[1957] These facilities include entrance facilities, connections from the incumbent LEC tandem office to a CMRS mobile base station, and other inter-network facilities for which no unbundling is required. *See supra* Part VI.C.

[1958] *See*, *e.g.*, National Exchange Carriers Association, Tariff FCC No. 3 (Special Construction), § 2.6.4.

obligation provides a critical safeguard against excessive unbundling at UNE prices.[1959] To the extent that commenters require such special construction and new facilities, they may purchase this as a service from the incumbent LEC special access tariff.

647. We reject the argument advanced by certain incumbent LECs, however, that specially constructed facilities, once constructed, are to be permanently exempted from unbundling obligations. These carriers contend that all of their SONET rings are built to the customer's definitive request, and that such customized facilities are not required to be unbundled by future requesting carriers.[1960] In support of this position, the incumbent LECs rely heavily on the *UNE Remand Order*'s statement that "[n]otwithstanding the fact that we require incumbents to unbundle high-capacity transmission facilities, we reject Sprint's proposal to require incumbent LECs to provide unbundled access to SONET rings."[1961] Regardless of the Commission's decision not to adopt a specific proposal in a prior proceeding, we clarify that an incumbent LEC's unbundling obligation includes all deployed transmission facilities in its network, unless specifically exempted in this Order.[1962] So long as a requesting carrier seeks access to an already existing transmission facility for which it is impaired, we do not deny access simply because the facility was constructed to the specifications of that carrier or another carrier.

648. To ensure that no incumbent LEC is obligated to build out facilities at TELRIC pricing, we clarify that the tariffed termination liabilities for special construction apply to the conversion of special access circuits built to customer specification. In this manner, no incumbent LEC will be uncompensated for constructing facilities – the tariffed non-recurring charges and termination liabilities that protect incumbent LECs from uncompensated build-outs where a competitor seeks to terminate a contract provide the same protection against UNE conversion.[1963] Competitors have commented broadly that no termination liabilities should apply

[1959] *See, e.g.*, Sprint Comments at 54 (recommending conditions where an incumbent LEC is obligated to undertake construction that include where the requesting carrier is willing to pay TELRIC-based non-recurring charges).

[1960] BellSouth Comments at 56-57; BellSouth Reply at 41-42; *see also* Qwest Comments at 40 (explaining that it undertook construction for CMRS providers pursuant to the specification of those carriers); Letter from John W. Kure, Executive Director – Federal Policy and Law, Qwest, to Magalie Roman Salas, Secretary, FCC, CC Docket No. 96-98, Attach. at 3 (filed Sep. 26, 2001) (arguing that optic fiber rings built for wireless carriers are not part of the Qwest "ubiquitous transport network."). As we explain in Part VI.C., *supra*, our interoffice transport rules are technology neutral, and SONET rings are subject to unbundling obligations in the same manner as any other transport facility. Although many commenters raise issues of special construction and SONET ring unbundling in the context of CMRS provider access to UNEs, our discussion here addresses all facilities.

[1961] BellSouth Reply at 42 (citing *UNE Remand Order*, 15 FCC Rcd at 3843, para. 324); Qwest Comments at 40.

[1962] We affirm that for those facilities that incumbent LECs do not have to provide on an unbundled basis to competitors, incumbent LECs may deploy them in their networks without making them available as UNEs on a nondiscriminatory basis.

[1963] Accordingly, the incumbent LEC concerns about lack of compensation are misplaced. *See*, *e.g.*, Qwest Comments at 40 ("Qwest agrees to undertake this construction only because the CMRS providers promised to compensate Qwest the tariffed price for these circuits. Qwest would not have constructed, nor would it have been obligated under the Commission's rules to construct, the circuits at the non-compensatory rates demanded by the CMRS providers.") (citations omitted).

to any conversions from special access to UNEs.[1964] While much of their focus appears directed toward those penalties triggered by long-term contracts, including stand-alone loop facilities, we are not persuaded to grant them relief from termination liabilities for special construction.[1965]

VIII. REMAINING ISSUES

A. Section 271 Issues

1. Background

649. As detailed above, section 251 of the Act is the source of incumbent LECs' unbundling obligations. Section 251(c)(3) requires all incumbent LECs (including BOCs) to provide "nondiscriminatory access to network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory."[1966] Section 251(d)(2) directs the Commission to determine whether access to particular proprietary elements is *necessary* and whether the unavailability of non-proprietary elements would *impair* a competitor's ability to provision service.[1967] These section 251 obligations are referenced and incorporated as obligations of BOCs under section 271(c)(2)(B)(ii) of the Act.[1968]

650. Section 271 establishes both the procedures by which a BOC may apply to provide interLATA services in one of its in-region states and the substantive standards by which that application must be judged. In particular, section 271(c)(2)(B) of the Act specifies the "competitive checklist" of access and interconnection requirements that BOCs must meet before they are allowed to offer in-region long-distance services.[1969] Four of these checklist items relate to network elements in earlier orders the Commission has deemed to be UNEs under the standards of section 251(c)(3). In particular, checklist items 4 through 6 and 10 require: "[l]ocal loop transmission from the central office to the customer's premises, unbundled from local

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[1964] *See*, *e.g.*, NuVox *et al*. Reply at 52 ("As part of this [fresh look] proposal, all special access circuits (whether equivalent to standalone UNEs, EELs or some other UNE combination) should be subject to conversion without termination penalties or imposition of nonrecurring charges other than a cost-based conversion charge designed exclusively to recover administrative expenses associated with converting associated billing from special access to UNE billing."); ALTS *et al*. Comments at 103 ("Furthermore, the FCC should mandate that no termination liability charges are to be assessed to CLECs converting circuits to UNE pricing.")

[1965] We address the specific issue of granting "fresh look" relief for conversions of EELs ordered during the vacatur of the Commission's combination rules in Part VIII.C. below.

[1966] 47 U.S.C. § 251(c)(3).

[1967] *Id*. § 252(d)(2). We note that to the extent an incumbent LEC is providing network elements pursuant to section 251(c)(3), section 252(d)(1) further requires that it provide such elements at rates that are nondiscriminatory and cost-based. *Id*. § 252(d)(1).

[1968] *Id*. § 271(c)(2)(B)(ii).

[1969] *Id.* § 271(c)(2)(B).

switching or other services;"[1970] "[l]ocal transport from the trunk side of a wireline local exchange carrier switch unbundled from switching or other services;"[1971] "[l]ocal switching unbundled from transport, local loop transmission, or other services,"[1972] and "[n]ondiscriminatory access to databases and associated signaling necessary for call routing and completion."[1973]

651. In the *Triennial Review NPRM*, the Commission sought comment on how the access requirements specified in the section 271 competitive checklist relate to the unbundling requirements derived from sections 251(c)(3) and 251(d)(2). The Commission first noted its conclusion in the *UNE Remand Order* that BOCs must continue to provide access to those network elements described in checklist items 4-6 and 10, even if such access is not mandated under section 251 (and checklist item 2).[1974] The Commission also concluded, in that Order, that market prices should be permitted to prevail for such network elements, rather than requiring forward-looking prices.[1975] The *Triennial Review NPRM* sought additional comment on these conclusions, on "how to evaluate a checklist item where there is no unbundling requirement for the network element that corresponds to that checklist item, and on the appropriateness of evaluating a tariffed service that corresponds to that network element."[1976]

652. Some commenters seek to alter the Commission's determination in the *UNE Remand Order* that section 271 establishes a separate BOC access obligation for network elements no longer listed under section 251(c)(3) and its conclusion that the marketplace, rather than our TELRIC methodology, should determine the price for delisted network elements under section 271. For example, Verizon argues that once the Commission has determined that a network element is not necessary under section 251(d)(2), the corresponding checklist item should be construed as being satisfied.[1977] Several competitive carriers counter that section 271

[1970] *Id.* § 271(c)(2)(B)(iv).

[1971] *Id.* § 271(c)(2)(B)(v).

[1972] *Id.* § 271(c)(2)(B)(vi).

[1973] *Id.* § 271(c)(2)(B)(x).

[1974] We note that section 271(c)(2)(B)(ii)'s requirement that BOCs provide nondiscriminatory access to network elements is referred to herein as checklist item 2.

[1975] *UNE Remand Order*, 15 FCC Rcd at 3906, para. 473, *see also Triennial Review NPRM*, 16 FCC Rcd at 22814, para. 72.

[1976] *Triennial Review NPRM*, 16 FCC Rcd at 22814, para. 72; *see also Bell Atlantic New York 271 Order*, 15 FCC Rcd at 4126-27, para. 340.

[1977] Verizon Comments at 66-67. Verizon argues, in the alternative, that the Commission should forbear from applying checklist items (4) through (6) and (10) "once the corresponding elements no longer need to be unbundled under section 251(d)(2)." Verizon Petition for Forbearance of the Verizon Telephone Companies Pursuant to Section 160(c), CC Docket 01-338 at 3 (filed July 29, 2002). We do not address Verizon's forbearance petition in this *Triennial Review* proceeding. Rather, we will address the petition separately consistent with the procedures outlined in section 10 of the Act. At the time we address the forbearance petition we will also address Verizon's (continued….)

requires BOCs to provide access to loops, switching, transport, and signaling regardless of impairment under section 251.[1978] Z-Tel further argues that competitors are entitled to access to loops, switching, transport, and signaling at TELRIC rates, even if the Commission were to remove these items from the list of UNEs under section 251.[1979] For the reasons outlined below, we reaffirm that BOCs have an independent obligation, under section 271(c)(2)(B), to provide access to certain network elements that are no longer subject to unbundling under section 251, and to do so at just and reasonable rates.

2. Discussion

653. *Independent Access Obligation.* For reasons set forth below, we continue to believe that the requirements of section 271(c)(2)(B) establish an independent obligation for BOCs to provide access to loops, switching, transport, and signaling regardless of any unbundling analysis under section 251.

654. First, the plain language and the structure of section 271(c)(2)(B) establish that BOCs have an independent and ongoing access obligation under section 271. Checklist item 2 requires compliance with the general unbundling obligations of section 251(c)(3) and of section 251(d)(2) which cross-references section 251(c)(3).[1980] Checklist items 4, 5, 6, and 10 separately impose access requirements regarding loop, transport, switching, and signaling,[1981] without mentioning section 251. Had Congress intended to have these later checklist items subject to section 251, it would have explicitly done so as it did in checklist item 2.[1982] Moreover, were we to conclude otherwise, we would necessarily render checklist items 4, 5, 6, and 10 entirely redundant and duplicative of checklist item 2 and thus violate one of the enduring tenets of statutory construction: to give effect, if possible, to every clause and word of a statute.[1983] Verizon asserts that an interpretation of the Act that recognizes the independence of sections 271

(Continued from previous page)

related argument that BOCs that offer access to delisted checklist items pursuant to section 271 alone are under no obligation to combine the elements for requesting carriers. Verizon Reply at 59.

[1978] ALTS *et al*. Comments at 117-18; NuVox *et al*. Comments at 115-16; CompTel Comments at 20; UNE-P Coalition Comments at 17; Z-Tel Comments at 4-15.

[1979] Z-Tel Comments at 7; *see also* UNE-P Coalition Reply at 37 (noting that the "Coalition agrees with Z-Tel . . .").

[1980] *See* 47 U.S.C. § 271(c)(2)(B)(ii).

[1981] *See* 47 U.S.C. § 271(c)(2)(B)(iv), (v), (vi), (x).

[1982] *Bates v. U.S.*, 522 U.S. 23, 29-30 (1997) (stating that "[w]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.") (internal quotation marks omitted). As such, our decision is entitled to deference because the interpretation involves matters about which the Act is silent. *Chevron*, 467 U.S. at 843.

[1983] *See United States v. Menasche*, 348 U.S. 528, 538-39 (1955).

and 251(d)(2) places these sections in conflict with each other.[1984] We disagree. Verizon's reading of section 271 would provide no reason for Congress to have enacted items 4, 5, 6, and 10 of the checklist because checklist item 2 would have sufficed.

655. Second, it is reasonable to interpret section 251 and 271 as operating independently. Section 251, by its own terms, applies to *all* incumbent LECs, and section 271 applies only to BOCs, a subset of incumbent LECs.[1985] In fact, section 271 places specific requirements on BOCs that were not listed in section 251. These additional requirements reflect Congress' concern, repeatedly recognized by the Commission and courts, with balancing the BOCs' entry into the long distance market with increased presence of competitors in the local market.[1986] Before the 1996 Act's passage, the BOCs, the local progeny of the once-integrated Bell system, were barred by the terms of the MFJ from entering certain lines of business, including providing interLATA services.[1987] The ban on BOC provision of long distance services was based on the MFJ court's determination that such a restriction was "clearly necessary to preserve free competition in the interexchange market."[1988] The protection of the interexchange market is reflected in the fact that section 271 primarily places in each BOC's hands the ability to determine if and when it will enter the long distance market. If the BOC is unwilling to open its local telecommunications markets to competition or apply for relief, the interexchange market remains protected because the BOC will not receive section 271 authorization. The same historical underpinning, however, is not relevant to section 251, which is a mandatory provision designed to ensure a minimum level of openness in the local market. Therefore, we reject Verizon's claim that any interpretation of section 271 that recognizes its independence from section 251 would improperly single out BOCs for treatment different from other incumbent LECs.[1989] As explained above, recognizing an independent obligation on BOCs under section 271 would by no means be inconsistent with the structure of the statute. Section 271 was written for the very purpose of establishing specific conditions of entry into the long distance that are

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[1984] Verizon Comments at 67; Verizon Reply at 54-55.

[1985] This fact alone demonstrates that section 271 is not dependent on section 251 because a more limited set of carriers was made subject to the demands of section 271. It is consistent with norms of statutory construction that section 251 as a general statutory provision does not control the more specific section 271. *See Gozlon-Peretz v. United States*, 498 U.S. 395 (1991) (a specific provision controls over one of a more general application).

[1986] Section 271 is the direct progeny of the Modification of Final Judgment (MFJ) that contained the terms of the settlement of the Department of Justice's antitrust suit against AT&T. *See United States v. Western Elec. Co.*, 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom.*, *Maryland v. United States,* 460 U.S. 1001 (1983). The MFJ sought to avoid the emergence of an unregulated telecommunications monopoly by imposing specific line-of-business restrictions that explicitly barred the BOCs from providing service for calls that occurred between LATAs. Although the Telecommunications Act of 1996 generally superseded the MFJ, section 271 conditionally continued the interLATA line-of-business restriction in the form of the competitive checklist.

[1987] The MFJ contained the terms of the settlement of the Department of Justice's antitrust suit against AT&T. *See id.*

[1988] *Id.* at 188.

[1989] Verizon Comments at 67; Verizon Reply at 54-55.

unique to the BOCs. As such, BOC obligations under section 271 are not necessarily relieved based on any determination we make under the section 251 unbundling analysis.[1990]

656. *Prices, Terms and Conditions.* It is a different question, however, as to what pricing standard applies to network elements that are unbundled by BOCs solely because of the requirements set forth in section 271. Where there is no impairment under section 251 and a network element is no longer subject to unbundling, we look to section 271 and elsewhere in the Act to determine the proper standard for evaluating the terms, conditions, and pricing under which a BOC must provide the checklist network elements. Contrary to the claims of some commenters, TELRIC pricing for checklist network elements that have been removed from the list of section 251 UNEs is neither mandated by statute nor necessary to protect the public interest. Rather, Congress established a pricing standard under section 252 for network elements unbundled pursuant to section 251 *where impairment is found to exist*. Here, however, we are discussing the appropriate pricing standard for these network elements where there is no impairment. Under the no impairment scenario, section 271 requires these elements to be unbundled, but not using the statutorily mandated rate under section 252. As set forth below, we find that the appropriate inquiry for network elements required only under section 271 is to assess whether they are priced on a just, reasonable and not unreasonably discriminatory basis – the standards set forth in sections 201 and 202.[1991]

657. By their own terms, neither section 252(d)(1) nor section 271(c)(2)(B) requires that the section 252(d)(1) pricing standard be applied to checklist network elements. Section 252(d)(1) provides the pricing standard "for network elements for purposes of [section 251(c)(3)],"[1992] and does not, by its terms, apply to network elements that are required only under section 271. Indeed, section 252(d)(1) is quite specific that it only applies for the purposes of implementation of section 251(c)(3) – meaning only where there has been a finding of impairment with regard to a given network element. Moreover, as noted above, while checklist item 2 provides that a BOC must provide access to UNEs "in accordance with the requirements of sections 251(c)(3) and 252(d)(1)," the checklist items establishing the specific, separate network element obligations do not contain this language. We disagree with Z-Tel's argument that the cross-reference in checklist item 2 should be read into the later checklist items, and is implicit in them.[1993] Reading this language into these provisions would change their plain meaning, and Z-Tel offers no indication that this is what Congress intended. Moreover, we

[1990] We decline to require BOCs, pursuant to section 271, to combine network elements that no longer are required to be unbundled under section 251. Unlike section 251(c)(3), items 4-6 and 10 of section 271's competitive checklist contain no mention of "combining" and, as noted above, do not refer back to the combination requirement set forth in section 251(c)(3). We also decline to apply our commingling rule, set forth in Part VII.A. above, to services that must be offered pursuant to these checklist items.

[1991] 47 U.S.C. §§ 201, 202.

[1992] *Id*. § 252(d)(1).

[1993] Letter from Christopher J. Wright, Counsel for Z-Tel, to Marlene H. Dortch, Secretary, FCC, CC Docket 01-338 at 11 (filed Dec. 20, 2002) (Z-Tel Dec. 20, 2002 *Ex Parte* Letter).

reject Z-Tel's argument that the cross-references were omitted simply to conserve space or to avoid repetition.[1994] To the contrary, we find Congress' decision to omit cross-references particularly meaningful in this instance: half of the checklist items contain explicit cross-references to other statutory provisions, and it is reasonable to conclude that Congress would have inserted a cross-reference into items 4-6 and 10 had that been its intention.

658. We also decline to use section 271, as suggested by Z-Tel, to broaden the unbundling obligations of section 251. Z-Tel notes that section 251(d)(2) directs the Commission to consider "impair[ment]" "at a minimum" in determining which network elements must be unbundled, and thus argues that the Commission may require unbundling pursuant to section 251 and 252 even in the absence of an impairment finding.[1995] In analyzing section 252(d)(2) the D.C. Circuit in *USTA* determined that the "at a minimum" language potentially could justify the imposition of unbundling obligations under that provision even in the "absence" of impairment.[1996] However, the *USTA* decision contained key limitations to the exercise of such authority. In order to apply the "at a minimum" language in the absence of impairment, the *USTA* court required that the Commission "point to something a bit more concrete than its belief in the beneficence of the widest unbundling possible."[1997] Were we to accept Z-Tel's argument, we would again impose a virtually unlimited standard to unbundling, based on little more than faith that more unbundling is better, regardless of context. Checklist items 4 through 6 and 10 do not require us to impose unbundling pursuant to section 251(d)(2). Rather, the checklist independently imposes unbundling obligations, but simply does so with less rigid accompanying conditions.

659. In interpreting section 271(c)(2)(B), we are guided by the familiar rule of statutory construction that, where possible, provisions of a statute should be read so as not to create a conflict.[1998] So if, for example, pursuant to section 251, competitive entrants are found not to be "impaired" without access to unbundled switching at TELRIC rates, the question becomes whether BOCs are required to provide unbundled switching at TELRIC rates pursuant to section 271(c)(2)(B)(vi). In order to read the provisions so as not to create a conflict, we conclude that section 271 requires BOCs to provide unbundled access to elements not required to be unbundled under section 251, but does not require TELRIC pricing. This interpretation allows us to reconcile the interrelated terms of the Act so that one provision (section 271) does not gratuitously reimpose the very same requirements that another provision (section 251) has eliminated.

[1994] Z-Tel Dec. 20, 2002 *Ex Parte* Letter at 11.

[1995] Z-Tel Comments at 17.

[1996] *USTA*, 290 F.3d at 425.

[1997] *Id*.

[1998] *See Washington Market Co. v. Hoffman,* 101 U.S. 112 (1879).

660. We reject arguments by Z-Tel and certain other competitive LECs that the proper way to reconcile any such conflict is to find that our section 251 impairment determinations with respect to unbundled local loops, switching and transport would apply only to non-BOC incumbent LECs.[1999] Z-Tel's argument posits that particular network elements enumerated in the section 271 checklist are the "core" elements, and thus concludes that while the standards in section 251 would still apply to all carriers as to any network elements not mentioned in the checklist, section 271 requirements (as construed by Z-Tel) would supercede section 251 standards as to the most critical network elements delineated by Congress. We think that this reading of the two provisions is illogical. BOCs control 85.9 percent of incumbent LEC local switched access lines.[2000] Of the remaining lines, 11.6 percent of the lines are served by certain rural telephone companies that section 251(f) expressly exempts from the unbundling obligations set forth in 251(c). So, under the Z-Tel interpretation of sections 251 and 271, Z-Tel would have section 251(c), which is arguably the most important market-opening provision of the Act, apply to a mere 2.5 percent of incumbent LEC lines on the issues and facilities that matter most to local competition.[2001] The section 271 checklist cannot be read to have such a broad effect – while it does set forth particular conditions Congress wished to impose on entry into the in-region interLATA market, Congress could not have intended the checklist to render section 251 itself superfluous.

661. Our recognition that pricing pursuant to section 252 does not apply to network elements that are not required to be unbundled is consistent with the Commission's general approach in the *UNE Remand Order*, and has been applied –apparently with no adverse effect – with respect to access to directory assistance and operator services. The Commission removed directory assistance and operator services from the list of UNEs in the *UNE Remand Order*.[2002] These network elements, like loops, transport, switching and signaling databases, are separately listed in the competitive checklist.[2003] Accordingly, as explained in subsequent section 271 Orders, access to directory assistance and operator services remains a condition of long distance entry – but the standard applicable to rates and conditions is not derived from sections 251 and 252.[2004] We note that no party has sought to overturn this aspect of the seventeen section 271 Orders that have applied this analysis since directory assistance and operator services were removed from the list of section 251 UNEs, and no party has suggested in this proceeding that the Commission's interpretation of the statute has produced a perverse policy impact with respect to a BOC's provision of these network elements.

[1999] Z-Tel Comments at 7-8.

[2000] *Federal Universal Service Support Mechanisms Fund Size Projections for the First Quarter 2003*, Submitted by the Universal Service Administrative Company (filed Nov. 1, 2002).

[2001] *Id.*

[2002] *UNE Remand Order*, 15 FCC Rcd at 3891-92, paras. 441-42.

[2003] *See* 47 U.S.C. § 271(c)(2)(B)(vii)(II)-(III).

[2004] *See, e.g.*, *SWBT Texas 271 Order*, 15 FCC Rcd at 18527, para. 348.

662. We note, however, that in the *UNE Remand Order* the Commission stated that "[i]f a checklist network element is unbundled, the applicable prices, terms and conditions are determined in accordance with sections 251 and 252. If a checklist network element does not satisfy the unbundling standards in section 251(d)(2), the applicable prices, terms and conditions for that element are determined in accordance with sections 201(b) and 202(a)."[2005] We reach essentially the same result here, but we clarify our reasoning below.

663. The Supreme Court has held that the last sentence of section 201(b), which authorizes the Commission "to prescribe such rules and regulations as may be necessary in the public interest to carry out the provisions of this Act," empowers the Commission to adopt rules that implement the new provisions of the Communications Act that were added by the Telecommunications Act of 1996.[2006] Section 271 is such a provision.[2007] Thus, the pricing of checklist network elements that do not satisfy the unbundling standards in section 251(d)(2) are reviewed utilizing the basic just, reasonable, and nondiscriminatory rate standard of sections 201 and 202 that is fundamental to common carrier regulation that has historically been applied under most federal and state statutes, including (for interstate services) the Communications Act.[2008] Application of the just and reasonable and nondiscriminatory pricing standard of sections 201 and 202 advances Congress's intent that Bell companies provide meaningful access to network elements.

664. Whether a particular checklist element's rate satisfies the just and reasonable pricing standard of section 201 and 202 is a fact-specific inquiry that the Commission will undertake in the context of a BOC's application for section 271 authority or in an enforcement proceeding brought pursuant to section 271(d)(6). We note, however, that for a given purchasing carrier, a BOC might satisfy this standard by demonstrating that the rate for a section 271 network element is at or below the rate at which the BOC offers comparable functions to similarly situated purchasing carriers under its interstate access tariff, to the extent such analogues exist. Alternatively, a BOC might demonstrate that the rate at which it offers a section 271 network element is reasonable by showing that it has entered into arms-length agreements with other, similarly situated purchasing carriers to provide the element at that rate.

665. *Post Entry Requirements.* In the event a BOC has already received section 271 authorization, section 271(d)(6) grants the Commission enforcement authority to ensure that the BOC continues to comply with the market opening requirements of section 271. In particular,

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[2005] *UNE Remand Order*, 15 FCC Rcd at 3905, para. 470.

[2006] *Iowa Utils. Bd.*, 525 U.S. at 377-81.

[2007] The Court found that this grant of authority was "unaffected by" the jurisdictional limitation regarding intrastate matters that was contained in section 2(b) of the 1934 Act. *Id*. at 379. The Court found that since new sections 251 and 252 applied to interstate as well as intrastate matters, section 201(b) authorized the Commission to adopt rules implementing the full scope of those provisions. *Id*. at 379-81.

[2008] *See* 47 U.S.C. §§ 201(b), 202(a). Therefore, we reject the argument of Z-Tel that section 252(d)(1) is the only basis for the Commission to evaluate checklist elements not required to be unbundled under section 251.

this section provides the Commission with enforcement authority where a BOC "has ceased to meet any of the conditions required for such approval."[2009] We conclude that for purposes of section 271(d)(6), BOCs must continue to comply with any conditions required for approval, consistent with changes in the law. While we believe that section 271(d)(6) established an ongoing duty for BOCs to remain in compliance, we do not believe that Congress intended that the "conditions required for such approval" would not change with time. Absent such a reading, the Commission would be in a position where it was imposing different backsliding requirements on BOCs solely based on date of section 271 entry, rather than based on the law as it currently exists. We reject this approach as antithetical to public policy because it would require the enforcement of out-of-date or even vacated rules.

666. Two commenters in this proceeding ask the Commission to adopt special procedural vehicles for re-examining section 271 authorizations, in light of potential rule changes that would change a BOC's obligations under section 251. First, Z-Tel asserts that the Commission must revisit every section 271 authorization to consider "[a]ny significant change to the availability of the UNE platform."[2010] Second, Talk America asks the Commission to adopt a procedure that would freeze in place a BOC's unbundling obligations under section 251, at least pending a review of potential backsliding under section 271(d)(6).[2011] Specifically, Talk America contends that, for a BOC that has previously received section 271 authorization, the "anti-backsliding" requirements of section 271(d)(6) would require it to continue providing unbundled local switching (and UNE-P) at TELRIC prices in the event it is no longer required to do so under section 251. Talk America suggests that any rule change that lessens a BOC's obligation to provide access to unbundled switching could decrease the level of facilities-based competition in either residential or business markets, thereby potentially causing a "backsliding" violation under section 271(d)(6) to the extent the BOC relied on UNE-P based competition to support its showing under section 271(c)(1)(A) (Track A). Accordingly, to address this risk of this type of "backsliding," Talk America would require BOCs to file a petition with the Commission – *before* they may be permitted to cease providing switching and UNE-P at TELRIC-based rates – demonstrating the existence of facilities-based competition from carriers that do not rely in any material part on the availability of unbundled local switching or UNE-P at TELRIC-based rates.[2012]

667. We decline to adopt the extraordinary procedural steps requested by Z-Tel and Talk America. With respect to Talk America's proposal, by reexamining whether a BOC

[2009] 47 U.S.C. § 271(d)(6).

[2010] Z-Tel Comments at 83-84.

[2011] Letter from Brad A. Mutschelknaus, Counsel for Talk America and Broadview Networks, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 15 (filed Dec. 6, 2002) (Talk America/Broadview Networks Dec. 6, 2002 *Ex Parte* Letter); *see also* Letter from Brad A. Mutschelknaus, Counsel for Talk America, to Marlene H. Dortch, Secretary, FCC, CC Docket 01-338 at 3 (filed Dec. 30, 2002) (Talk America Dec. 30, 2002 *Ex Parte* Letter).

[2012] Talk America Dec. 30, 2002 *Ex Parte* Letter at 3.

continues to qualify for "Track A" *before* conditions change in the market ignores the reality that competitors may take steps to retain customers served by UNE-P. For example, it is entirely possible that a competitive LEC may transition customers from UNE-P to an arrangement using unbundled loops combined with its own switching – thereby retaining the same level of facilities-based competition. Accordingly, the before-the-fact review proposed by Talk America would necessarily require speculation and would hold a BOC to a higher standard than under its initial section 271 application. Finally, there is no suggestion that the procedure proposed by Talk America is necessary to detect discrimination or bad conduct – indeed, the harm alleged by Talk America would result from a BOC's *compliance with* federal unbundling rules. Accordingly, we do not believe the public interest warrants adoption of this special procedural step. For similar reasons, we decline Z-Tel's request to "revisit" every section 271 authorization to consider changes regarding UNE-P.

B. Clarification of TELRIC Rules

1. Background

668. Section 252(d)(1) of the Act provides that rates for interconnection and unbundled elements shall be "based on the cost (determined without reference to a rate-of-return or other rate-based proceeding) of providing the interconnection or network element" and "may include a reasonable profit."[2013] In the *Local Competition Order*, the Commission adopted guidelines to be applied by state commissions when they are called on to arbitrate disputes regarding the prices for interconnection and UNEs pursuant to section 252(d).[2014] Specifically, the Commission adopted a forward-looking economic cost methodology, which it called "Total Element Long Run Incremental Cost" or "TELRIC." The Supreme Court affirmed the Commission's TELRIC rules in *Verizon v. FCC*.[2015]

669. Based on the Commission's finding that prices in a competitive market will tend towards long-run incremental cost,[2016] the TELRIC methodology is designed to derive prices for particular elements in the incumbent LEC's network that "replicate[], to the extent possible," what the incumbent LEC would be able to charge in a competitive market.[2017] Specifically, TELRIC equates the current market value of the existing network of an incumbent telecommunications provider with the cost the incumbent LEC would incur today if it built a

[2013] 47 U.S.C. § 252(d)(1).

[2014] *Local Competition Order*, 11 FCC Rcd at 15515, para. 29. The Commission also concluded that rates for reciprocal compensation under section 252(d)(2) should be based on the same principles. *Id*. at 16023, para. 1054.

[2015] *Verizon*, 535 U.S. at 467.

[2016] *Local Competition Order*, 11 FCC Rcd at 15845, para. 675.

[2017] *Id*. at 15846, para. 679.

local network that could provide all the services its current network provides, to meet reasonably foreseeable demand, using the least-cost, most-efficient technology currently available.[2018]

670. The Commission's decision to equate the current value of existing equipment with the forward-looking cost of currently available equipment "rests on the rational economic assumption that, as new, more efficient equipment becomes available, the value of older, less efficient equipment will be affected."[2019] TELRIC assumes that the value of an incumbent LEC's network is constrained by the most efficient technology available, even if the incumbent LEC itself does not deploy, or plan to deploy, that technology. In the competitive market assumed under TELRIC, we assume that the most efficient technology currently available will be deployed by at least one carrier, and that the value of all competing networks, and the prices for elements of those networks, will be constrained by the value of the more efficient network.[2020]

671. The TELRIC of a network element is the sum of three components – operating expenses, depreciation expense, and cost of capital.[2021] *Operating expenses* are the annual costs associated with operating a particular asset. Specifically, rates established under TELRIC should reflect the operating expenses associated with a network that uses the most efficient technology currently available.[2022] *Depreciation* is the mechanism by which the investment in an asset is recovered over the life of the asset. In describing the TELRIC methodology, the Commission stated that depreciation expense should be based on "economic depreciation" that "reflects the true changes in economic value of an asset."[2023] *Cost of capital* reflects the rate of rate of return required to attract capital, *i.e.*, the rate of return that investors expect to receive from alternative investments that have the same risk. In the *Local Competition Order*, the Commission stated that regulators should adjust the cost of capital to reflect the risks faced by the incumbent LEC as competition is introduced into its local market.[2024]

672. In paragraph 24 of the *Triennial Review NPRM*, we sought comment on whether, "to encourage investment in new facilities, we might clarify or modify our pricing rules to allow

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[2018] *Local Competition Order*, 11 FCC Rcd at 15848-49, para. 685; 47 C.F.R. §§ 51.501–51.511. The Commission added one additional constraint on the design of the network: the new network must take as given the existing wire center locations. *Local Competition Order*, 11 FCC Rcd at 15848-49, para. 685.

[2019] *Verizon v. FCC*, Reply Brief for Petitioners United States and FCC at 8 (FCC Reply Brief). As the Supreme Court noted, "what the incumbents call the 'hypothetical' element is simply the element valued in terms of a piece of equipment an incumbent may not own." *Verizon*, 535 U.S. at 501.

[2020] Although it is appropriate for a TELRIC analysis to consider existing technology that is not currently deployed by an incumbent LEC, it is not appropriate to consider technologies that may be available in the future but are not currently available.

[2021] *Local Competition Order*, 11 FCC Rcd at 15856, para. 703.

[2022] *Id.* at 15848-49, para. 685.

[2023] *Id*. at 15856, para. 703.

[2024] *Id*.

incumbent LECs to recover for any unique costs and risks associated with such investment." In their comments and reply comments, both incumbent LECs and equipment manufacturers argue that a reexamination of TELRIC is necessary because our rules discourage carriers from investing in new facilities.[2025] Competitive LECs generally oppose any modification of our pricing rules on the ground that TELRIC-based rates are fully compensatory and higher rates would create inefficient investment incentives.[2026] Some parties, such as Covad, argue that, if the Commission decides that changes are needed to encourage investment, it is better to modify our pricing rules than to eliminate unbundling requirements.[2027]

673. Subsequently, in a series of *ex parte* letters, a number of incumbent LECs provided a more detailed analysis of their concerns about the effect of TELRIC pricing on their investment incentives.[2028] The incumbent LECs identify five specific aspects of TELRIC that they contend require clarification or modification to ensure that UNE pricing sends correct economic signals: network assumptions, cost of capital, depreciation, fill factors, and NRCs.[2029] Verizon argues that resolution of these issues is necessary so that UNE prices send "the best possible market signals to incumbent LECs, competitive LECs and intermodal competitors, a result that is critical to the continued investment by all competing providers."[2030] Similarly, SBC urges the Commission to "strive to ensure that the regulatory methodology for setting wholesale prices is economically rational and creates the right incentives for incumbent and new entrants alike."[2031] Qwest requests "restoration of TELRIC to its original purpose: the creation of economically appropriate price signals for competitive LECs as they choose between leasing facilities from incumbent LECs and procuring their own."[2032]

[2025] *See, e.g.*, Verizon Comments at 32-33; ACS Comments at 7-8; Alcatel Comments at 24-25.

[2026] *See, e.g.*, WorldCom Comments at 65-70.

[2027] Covad Comments at 63; *see also* Massachusetts Department Comments at 6-7.

[2028] *See* Letter from William P. Barr, Executive Vice President and General Counsel, Verizon, to Michael K. Powell, Chairman, FCC (dated July 16, 2002), *in* Letter from W. Scott Randolph, Director-Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed July 18, 2002) (Verizon July 18, 2002 TELRIC *Ex Parte* Letter); Letter from William M. Daley, President, SBC Communications, to Michael K. Powell, Chairman, FCC (dated Sept. 4, 2002), *in* Letter from Jim Lamoureux, Senior Counsel, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Sept. 9, 2002) (SBC Sept. 9, 2002 TELRIC *Ex Parte* Letter); Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Oct. 28, 2002) (Qwest Oct. 28, 2002 TELRIC *Ex Parte* Letter).

[2029] Verizon July 18, 2002 TELRIC *Ex Parte* Letter at 2-5; Letter from William M. Daly, President, SBC, to Michael K. Powell, Chairman, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 3 (dated Sept. 4, 2002) (SBC Sept. 9, 2002 TELRIC *Ex Parte* Letter), *in* Letter from Jim Lamoureux, Senior Counsel, SBC, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147, 00-218, 00-249, 00-251 (filed Sept. 9, 2002).

[2030] Verizon July 18, 2002 TELRIC *Ex Parte* Letter at 5.

[2031] SBC Sept. 9, 2002 TELRIC *Ex Parte* Letter at 2.

[2032] Qwest Oct. 28, 2002 TELRIC *Ex Parte* Letter, Attach. at 3.

674. In response, competitive LECs contend that the TELRIC methodology, properly applied, does send appropriate pricing signals.[2033] AT&T challenges the notion that TELRIC pricing diminishes the investment incentives of the incumbent LECs. According to AT&T, "there is no reason why unbundling under the TELRIC standard, properly applied, should lead to underinvestment."[2034] Rather, existing TELRIC rules provide incumbent LECs the opportunity to "establish the UNE rates that are necessary to reflect the particular costs and risks they face."[2035] Similarly, McLeodUSA states that "current TELRIC rules can and do promote investment in the integrated network."[2036]

2. Discussion

675. We conclude that it is necessary to clarify the application of two components of TELRIC that have a major impact on UNE prices – cost of capital and depreciation. These two components of TELRIC are the primary vehicles by which any risks associated with new facilities and new services may be reflected in UNE prices, and therefore it is appropriate to consider these issues in response to the question presented in the *Triennial Review NPRM*. We believe the guidance we provide below is responsive to the concerns raised by the parties and will assist states in their efforts to establish UNE prices that appropriately reflect these risks.

676. In addition to clarification of our rules, some of the incumbent LECs have proposed fundamental changes to the theory underlying the TELRIC rules.[2037] These proposals go well beyond the single pricing issue identified in the *Triennial Review NPRM* – whether to modify or clarify our rules to encourage investment in new facilities. We find that the record in this proceeding does not support the type of dramatic changes proposed by the incumbent LECs.[2038] Rather, we find that issues related to modification of our TELRIC pricing framework

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[2033] *See* Letter from James W. Cicconi, General Counsel and Executive Vice President, AT&T, to Michael K. Powell, Chairman, FCC, (dated July 26, 2002), *in* Letter from Joan Marsh, Director-Federal Government Affairs, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed July 26, 2002) (AT&T July 26, 2002 TELRIC *Ex Parte* Letter); Letter from Chris Frentrup, Senior Economist, WorldCom, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Oct. 23, 2002) (WorldCom Oct. 23, 2002 TELRIC *Ex Parte* Letter); McLeodUSA Jan. 8, 2003 TELRIC *Ex Parte* Letter.

[2034] AT&T July 26, 2002 TELRIC *Ex Parte* Letter at 2.

[2035] *Id*.

[2036] McLeodUSA Jan. 8, 2003 TELRIC *Ex Parte* Letter at 4.

[2037] Verizon, for example, suggests we establish prices based on the costs of its actual network, rather than a hypothetical network. *See* Verizon July 18, 2002 TELRIC *Ex Parte* Letter at 4 ("[T]he Commission should alter its methodology to eliminate the assumption that the existing network is completely 'reconstructed' to reflect a technology mix that goes beyond what likely will ever be in place in any real-world network.").

[2038] Both incumbent LECs and competitive LECs have presented some evidence attempting to establish the relationship between UNE prices and investment. *See, e.g.*, Qwest Reply, Attach. *UNE Prices and Telecommunications Investment*; AT&T Oct. 11, 2002 Willig Stimulating Investment; *The Role of Competition in Stimulating Telecommunications Investment*, Hassett and Kotlikoff (dated Oct. 2002), *in* Letter from Kevin A. Hassett, Resident Scholar, The American Enterprise Institute, to Marlene H. Dortch, Secretary, FCC, CC Docket (continued….)

are best addressed in a future proceeding dedicated to that topic. Accordingly, we will leave the general TELRIC framework intact at this time and consider the need for changes on a more complete record in a future review proceeding.

a. Cost of Capital

677. The cost of capital component of TELRIC is one mechanism by which risk is reflected in UNE prices. In the *Local Competition Order*, the Commission stated that the "currently authorized rate of return at the federal or state level is a reasonable starting point," and that incumbent LECs "bear the burden of demonstrating with specificity that the business risks that they face providing unbundled network elements and interconnection services would justify a different risk-adjusted cost of capital or depreciation rate."[2039] The Commission noted that 11.25 percent was the currently authorized rate of return at the federal level, but held that states may "adjust the cost of capital if a party demonstrates to a state commission that either a higher or lower level of cost of capital is warranted."[2040]

678. Verizon urges the Commission to clarify that, "because TELRIC requires that prices be set based on various competitive assumptions, the cost of capital calculated under TELRIC must reflect the risks associated with those assumptions."[2041] Both Verizon and SBC claim that the risks faced by incumbent LECs today are much greater than they were in 1996 when the Commission stated that 11.25 percent should be used as the starting point in calculating cost of capital.[2042]

679. In response, AT&T states that paragraph 702 of the *Local Competition Order* requires consideration of the *actual* competitive risks an incumbent LEC faces, not the risks it would face in the competitive market that TELRIC assumes.[2043] Specifically, AT&T emphasizes that incumbent LECs have to burden to "demonstrate with specificity" the business risks that "they face" in providing UNEs, not the risks "they might face" if the market were fully

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No. 01-338 (filed Nov. 15, 2002). The only conclusion that we can draw from these studies is that wholesale pricing may be one of the many factors that influence carriers' investment decisions, but that the relative importance of the wholesale pricing regime on investment incentives is uncertain.

[2039] *Local Competition Order*, 11 FCC Rcd at 15856, para. 702.

[2040] *Id.*

[2041] Verizon July 18, 2002 TELRIC *Ex Parte* Letter at 2.

[2042] SBC Sept. 9, 2002 TELRIC *Ex Parte* Letter at 3-4; Verizon July 18, 2002 TELRIC *Ex Parte* Letter at 2.

[2043] AT&T July 26, 2002 TELRIC *Ex Parte* Letter, Attach. at 1. AT&T's position on this issue appears to have evolved over the course of this proceeding. In a subsequent *ex parte* letter, AT&T states that TELRIC compensates incumbent LECs for investing in upgraded facilities, such as fiber loops, because a TELRIC-based price "fully compensates the incumbent for its *prospective risk*." Letter from David Lawson, Counsel for AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 16 (filed Dec. 23, 2002) (emphasis added) (AT&T Dec. 23, 2002 Lawson *Ex Parte* Letter).

competitive.[2044] AT&T also challenges the assertion that an incumbent LEC's UNE business faces risks that are greater than they were in 1996, arguing that even Verizon's own witnesses have conceded in state proceedings that facilities-based competitive LECs are unlikely to make significant inroads in the foreseeable future.[2045]

680. To ensure that UNE prices set by the states appropriately reflect the risks associated with new facilities and new services, we think it would be helpful to clarify two types of risks that should be reflected in the cost of capital. First, we clarify that a TELRIC-based cost of capital should reflect the risks of a competitive market. The objective of TELRIC is to establish a price that replicates the price that would exist in a market in which there is facilities-based competition. In this type of competitive market, all facilities-based carriers would face the risk of losing customers to other facilities-based carriers, and that risk should be reflected in TELRIC prices.

681. We do not agree with AT&T that paragraph 702 of the *Local Competition Order* limits a state to considering only the actual competitive risk the incumbent LEC currently faces in providing UNEs. Because the objective of TELRIC pricing is to replicate pricing in a competitive market,[2046] and prices in a competitive market would reflect the competitive risks associated with participating in such a market, we now clarify that states should establish a cost of capital that reflects the competitive risks associated with participating in the type of market that TELRIC assumes. The Commission specifically recognized that increased competition would lead to increased risk, which would warrant an increased cost of capital.[2047] Although paragraph 702 states that there was limited competition for network elements at the time, it is clear from our discussion of the TELRIC methodology that future competition must be considered in assessing risk.[2048]

682. The approach advocated by AT&T and WorldCom does not provide optimal incentives for investment. To calculate rates based on an assumption of a forward-looking network that uses the most efficient technology (*i.e.*, the network that would be deployed in a

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[2044] AT&T July 26, 2002 TELRIC *Ex Parte* Letter, Attach. at 1 (citing *Local Competition Order*, 11 FCC Rcd at 15856, para. 702).

[2045] *Id*.

[2046] *Local Competition Order*, 11 FCC Rcd at 15846, para. 679.

[2047] *Id.* at 15856, para. 702.

[2048] *Id.* at 15848, para. 683 ("Forward-looking cost methodologies, like TELRIC, are intended to consider the costs that a carrier would incur in the future."); *see also id*. at 15854, para. 700 ("The concept of normal profit is embedded in forward-looking costs because the forward-looking cost of capital, *i.e.*, the cost of obtaining debt and equity financing, is one of the forward-looking costs of providing the network elements. This forward-looking cost of capital is equal to a normal profit."). Even if the *Local Competition Order* could be read to suggest that a TELRIC analysis should consider only the current competitive risk faced by an incumbent LEC, we now modify that requirement as described in the text. We think this modification is necessary to send appropriate economic signals as addressed in the next paragraph.

competitive market), without also compensating for the risks associated with investment in such a network, would reduce artificially the value of the incumbent LEC network and send improper pricing signals to competitors. Establishing UNE prices based on an unreasonably low cost of capital would discourage competitive LECs from investing in their own facilities and thus slow the development of facilities-based competition.

683. Second, we clarify that a TELRIC-based cost of capital should reflect any unique risks (above and beyond the competitive risks discussed above) associated with new services that might be provided over certain types of facilities.[2049] In the *Local Competition Order*, the Commission stated that different UNEs may have different costs of capital.[2050] We now clarify that the use of UNE-specific costs of capital is an acceptable method of reflecting in UNE prices any risk associated with new facilities that employ new technology and offer new services. A carrier in a TELRIC proceeding could, for example, attempt to demonstrate that the cost of capital associated with new services that might be provided over mixed copper/fiber loops is higher than the cost of capital used for voice services provided over other UNEs. We think this approach responds to the incumbent LECs' concern that our rules provide no opportunity for them to recover the cost of investing in facilities to provide services that are more advanced than those modeled under TELRIC.[2051]

684. We are not aware of any state proceedings that have considered the use of different costs of capital for different elements. Moreover, the record in this proceeding does not specifically identify or quantify the additional risk that may be associated with investing in facilities to support advanced services. We cannot tell, therefore, whether the benefits of using multiple costs of capital will in all cases outweigh the possible increased administrative burden associated with establishing multiple costs of capital. Accordingly, we believe parties should continue to have the option to propose (and states should have the option to adopt) a single cost of capital for all UNEs that appropriately reflects the risks associated with competitive markets for the services provided over incumbent LEC networks. We think this approach provides incumbent LECs the opportunity to seek compensation for any additional risks associated with new services and facilities, while preserving flexibility for all parties and for state commissions with respect to implementation of our TELRIC rules.

[2049] There seems to be some agreement among the parties on this point. In an *ex parte* filing, AT&T states that "TELRIC-based rates in this context would be calculated by including the potential risk that consumers would not purchase services provided over upgraded facilities." AT&T Dec. 23, 2002 Lawson *Ex Parte* Letter at 16. Similarly, McLeodUSA states that state commissions should "consider whether the risks associated with the equipment providing integrated (including broadband) services warrants an increase in the rate of return used to calculate the TELRIC price." McLeodUSA Jan. 8, 2003 TELRIC *Ex Parte* Letter at 4.

[2050] *Local Competition Order*, 11 FCC Rcd at 15856, para. 702 ("We note that the risk-adjusted cost of capital need not be uniform for all elements.").

[2051] *See, e.g.*, Verizon Oct. 16, 2002 *Ex Parte* Letter at 2 (stating that the current regime "permits telephone companies to earn back their costs (or less under TELRIC) and requires them to bear the full downside risk of investments that fail, while leaving others to capture any upside of investments that succeed.").

b. Depreciation

685. Like cost of capital, the depreciation component of TELRIC provides a mechanism by which UNE prices will reflect certain risks associated with new facilities and new services. The *Local Competition Order* contains a very limited discussion of depreciation. Specifically, the Commission stated that properly designed depreciation schedules should take into account expected declines in the value of goods.[2052] Similarly, our rules require the use of "economic depreciation" but provide no additional detail.[2053] There appears to be general agreement among the parties that depreciation should reflect any factors that would cause a decline in asset values, such as competition or advances in technology.[2054]

686. There are two components of depreciation – the useful life of the asset, and the rate at which the asset is depreciated over the useful life. In their comments, the incumbent LECs address only the issue of asset lives. Verizon requests that, "at an absolute minimum, the Commission should make clear that the starting point should be the same lives that are used for financial reporting purposes in accordance with well-recognized accounting principles."[2055] These lives are "intrinsically forward-looking and are updated frequently to reflect technological and other changes that affect the length of an asset's economic life."[2056] SBC takes a similar approach, noting that Commission action is necessary because "virtually all states applying TELRIC have applied historical, backward-looking legacy regulation depreciation rates devised years ago."[2057] SBC states that these legacy depreciation rates are "inconsistent with real depreciation lives of real telephony assets in the ground, and they are even more inconsistent with the forward-looking TELRIC methodology itself, which assumes, after all, a hypothetical competitor that maintains state-of-the-art equipment."[2058]

687. AT&T and WorldCom respond by arguing that no clarification of TELRIC is necessary. AT&T states that the incumbent LEC position "misrepresents the Commission-prescribed depreciation lives" because "those lives reflect a rigorous application of forward-

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[2052] *Local Competition Order*, 11 FCC Rcd at 15849, para. 686.

[2053] 47 C.F.R. § 51.505(b)(3).

[2054] AT&T, for example, states that "if a competitive environment makes it more likely that an incumbent's capital will be devalued (say by entry or by more rapid technical progress), TELRIC depreciation will reflect this." AT&T Dec. 23, 2002 Lawson *Ex Parte* Letter at 17. This statement appears to be consistent with the basic approach advocated by the incumbent LECs. *See, e.g.*, Verizon July 18, 2002 TELRIC *Ex Parte* Letter at 3 (advocating asset lives based on financial reporting because they are "updated frequently to reflect technological and other changes that affect the length of an asset's economic life.").

[2055] Verizon July 18, 2002 TELRIC *Ex Parte* Letter at 2-3.

[2056] *Id.* at 3.

[2057] SBC Sept. 9, 2002 TELRIC *Ex Parte* Letter at 3.

[2058] *Id.*

looking principles."[2059] Depreciation lives based on financial accounting, on the other hand, are "biased towards the low (shorter) side because they are driven by corporate objectives, including the objective of protecting shareholders."[2060] WorldCom echoes these arguments, and notes that the Commission rejected the use of financial lives, and endorsed the use of Commission-prescribed regulatory lives, for use in the TELRIC model used to calculate universal service support.[2061]

688. We decline to adopt the incumbent LECs' suggestion that we mandate the use of financial lives in establishing depreciation expense under TELRIC. The incumbent LECs have not provided any empirical basis on which we could conclude that financial lives always will be more consistent with TELRIC than regulatory lives. Both financial lives and regulatory lives were developed for purposes other than, or in addition to, reflecting the actual useful life of an asset.[2062] We cannot conclude on this record that one set of lives or the other more closely reflects the actual useful life of an asset that would be anticipated in a competitive market. Accordingly, state commissions continue to have discretion with respect to the asset lives they use in calculating depreciation expense.

689. Although we decline to mandate a particular method of deciding the useful life of an asset, we believe that clarification of our rules is necessary with respect to the rate at which an asset is depreciated over its useful life. As noted above, the various components of TELRIC rates should be developed using a consistent set of assumptions about competition. In calculating depreciation expense, therefore, the rate of depreciation over the useful life should reflect the actual decline in value that would be anticipated in the competitive market TELRIC assumes. In this way our "economic depreciation" requirement is designed to replicate the results that would be anticipated in a competitive market.

690. We clarify that under our "economic depreciation" requirement, a carrier may accelerate recovery of the initial capital outlay for an asset over its life to reflect any anticipated decline in its value. For example, an approach that accelerates cost recovery based on an index showing that equipment prices are declining over time may be consistent with our requirement to use economic depreciation. Recovering more of the initial capital outlay for the asset in the early years would enable a carrier to recover less in later years, thereby allowing it to compete with carriers that have purchased new, lower-priced equipment in those later years.

[2059] AT&T July 26, 2002 TELRIC *Ex Parte* Letter, Attach. at 2.

[2060] *Id.*

[2061] WorldCom Oct. 23, 2002 TELRIC *Ex Parte* Letter at 3 (citing *Federal-State Joint Board on Universal Service, Forward-Looking Mechanism For High Cost Support For Non-Rural LECs*, CC Docket Nos. 96-45, 97-160, Tenth Report and Order, 14 FCC Rcd 20156, 20344-46, paras. 426-29 (1999)).

[2062] *See 1998 Biennial Regulatory Review – Review of Depreciation Requirements for Incumbent Local Exchange Carriers*, Report and Order in CC Docket No. 98-137 and Memorandum Opinion and Order in ASD 98-91, 15 FCC Rcd 242, 262-63, paras. 48-49 (1999) (noting that Generally Accepted Accounting Principles (GAAP) and other non-FCC regulatory safeguards are intended to protect investor interests, while the Commission's depreciation requirements are intended to protect ratepayer interests).

691. To date, state commissions generally have used straight-line depreciation, rather than accelerated depreciation that reflects the anticipated decline in value of assets. Accordingly, the use of accelerated depreciation may raise issues that have not been addressed previously in state proceedings. Among the questions that would have to be addressed by regulators - either the Commission or the states - are how to measure the anticipated decline in value of assets, whether shorter asset lives represent an alternative method of capturing this decline, how UNE prices should be structured to reflect decreases in depreciation expense from one period to the next, and whether levelizing rates across periods, as most cost models do, diminishes, or even eliminates the intended effect of the acceleration. The record in this proceeding does not provide sufficient information for the Commission to resolve these questions at this time, but we encourage state commissions to consider these issues in future UNE pricing proceedings.[2063]

C. Fresh Look

692. In the *UNE Remand Order*, the Commission declined to grant relief for competitors from liability under contractual early termination clauses in the event that an incumbent LEC's carrier-customer converts a special access circuit to a UNE.[2064] Early termination clauses are provisions that are typically found in fixed term contracts that require payment of a fee if a customer terminates the contract prior to the end of the mutually agreed upon contract term. As a general matter, early termination provisions can be mutually beneficial. Providers are given a measure of certainty because such penalty provisions ensure that costs will be recouped in the event a customer fails to utilize the service for the stipulated period of time. On the other hand, customers enjoy discounted and stable priced services over the life of the contract term.

693. In the *Triennial Review NPRM,* the Commission sought comment on "what bases competitors should be able to obtain a 'fresh look' for long-term commitments."[2065] In response, some competitive LECs have indicated that the Commission should not permit incumbent LECs to impose early termination liabilities on competitive LECs converting from special access to UNEs because the law requires such a result. Notably, they contend that: (1) no "termination" occurs because circuits are "converted" to EELs;[2066] (2) the Commission is obligated to correct the results of an erroneous decision by the Eighth Circuit;[2067] and (3) termination penalties

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[2063] As noted above, the Commission plans to commence a proceeding to consider these and other issues related to TELRIC pricing in the near future.

[2064] *UNE Remand Order*, 15 FCC Rcd at 3912, para. 486 n.985.

[2065] *Triennial Review NPRM*, 16 FCC Rcd 22819, para. 83.

[2066] *See, e.g.*, Letter from M. Gavin McCarty, Chief Legal Officer, Globalcom, to William Maher, Chief, Wireline Competition Bureau, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1-2 (dated Nov. 11, 2002), *in* Letter from M. Gavin McCarty, Chief Legal Officer, Globalcom, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Nov. 14, 2002) (Globalcom Nov. 14, 2002 *Ex Parte* Letter).

[2067] Globalcom Nov. 14, 2002 *Ex Parte* Letter at 2.

constitute "restrictions" on access to UNEs, which is prohibited by section 251.[2068] Competitive LECs also contend that the Commission should exercise its discretion to adopt fresh look because: (1) incumbent LECs exercise market power to force competitive LECs to buy special access facilities which were only affordable with long-term discounts;[2069] and (2) in light of high special access charges and NRCs, termination penalties would be a windfall to incumbent LECs.[2070]

694. Despite these arguments, we will not disturb the Commission's earlier determination related to fresh look for special access to EEL conversions. As indicated below, there is no legal basis that requires the Commission to institute a fresh look policy for EEL conversions. Moreover, we conclude that restructuring these contracts may be unfair to both incumbent LECs and other competitors, disruptive to the market place, and ultimately inconsistent with the public interest. While we recognize that fresh look may have been granted in other circumstances, we nevertheless note that the grant of fresh look is a very rare occurrence.

695. As an initial matter, we remain unconvinced by the general argument advanced by several commenters that converting a special access circuit to a UNE does not constitute a termination within the meaning of the termination provisions of incumbent LEC tariffs. Globalcom suggests that such "conversions" do not constitute a termination if the competitive carrier would agree to maintain the UNE loop/transport combination for the remainder of the special access term.[2071] In support of this position, Globalcom noted that the Illinois Commerce Commission determined that termination charges should not apply under Ameritech's intrastate special access tariffs because the termination charges "were not designed for the situation . . . where the provider-customer relationship continues."[2072] Globalcom, however, has not demonstrated that a similar interpretation is required under incumbent LECs' interstate special access tariffs.[2073] In essence, Globalcom claims that no termination has occurred during conversions because the continuation of some other service cancels out the fact that the original

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[2068] NuVox *et al*. Comments at 116.

[2069] *See* AT&T Reply at 297; *see also* ALTS *et al*. Comments at 128 (arguing that long-term special access arrangements prevent consumers from obtaining the benefits of competition); NuVox *et al*. Comments at 116-17 (arguing that conversion to UNEs was previously denied by incumbent LECs).

[2070] *See* ALTS *et al*. Comments at 129; *see also* Globalcom Nov. 14, 2002 *Ex Parte* Letter at 2 (arguing that after the termination penalty is assessed the competitive LEC will continue to pay TELRIC compensation).

[2071] Globalcom Nov. 14, 2002 *Ex Parte* Letter at 3.

[2072] Globalcom Nov. 14, 2002 *Ex Parte* Letter at 3 (citing *Globalcom v. Illinois Bell Telephone d/b/a Ameritech Illinois*, ICC Docket 02-0365 (Ill. C.C. Oct, 23, 2002)).

[2073] We note that Globalcom has not provided any specific information (including citations to specific provisions) from its interstate special access contracts.

service under the tariff will be discontinued.[2074] While we do not foreclose this as a proper reading of a particular tariff provision, we also do not find support on this record for the conclusion that this reading necessarily is proper for all tariff provisions.

696. Globalcom also argues that "but for" the protracted litigation regarding UNE rules, competitive LECs would not have been forced to order special access circuits and incumbent LECs would not have been able to charge higher special access rates or cost prohibitive termination fees.[2075] Globalcom seeks to have the Commission go back in time to resolve the inequities that it claims resulted from the decision of the Eighth Circuit to vacate sections 51.315(c)-(f) of our rules, which required incumbent LECs to combine elements on behalf of competitive LECs on request.[2076] We decline to engage in such an exercise. We find that doing so would neither be in the public interest nor represent a competitively neutral approach to the rule changes that have affected both incumbent LECs and competitive LECs alike. Indeed, in overturning the Commission's unbundling rules the D.C. Circuit wrote that UNEs had been "available to CLECs in many markets where there is no reasonable basis for thinking that competition is suffering from any impairment . . . ."[2077] In response to this judicial concern, we have revisited our unbundling requirements in this Order. However, we have not sought to establish rules that would retroactively resolve issues related to the issuance of the *UNE Remand Order*. Doing so would require a level of speculation and conjecture that does not forward the public interest. Moreover, to the extent that Globalcom seeks protection from regulatory and judicial uncertainty, it was free to negotiate to include a change of law provision that would have protected it against the Eighth Circuit's ruling.

697. NuVox *et al*. contends that the Commission is legally required to institute a fresh look policy, arguing that a denial of fresh look would be inconsistent with section 251, which does not permit the imposition of impediments to or restrictions on access to UNEs.[2078] We disagree with the logic of NuVox. Nothing in section 251 mandates that the Commission deny incumbent LECs termination liability payments to which they are entitled under contracts in the event of an EEL conversion. As noted above, contracts that provide for term pricing and early termination penalties may benefit both parties and thus do not represent the type of impediment or restriction to access that section 251 prohibits. While we agree that incumbent LECs are not permitted to establish unilateral barriers that work to restrict access to UNEs, that is not the case here. The termination penalties were established by a process of bilateral negotiation or arbitration, not fiat.

[2074] *See also* NuVox *et al*. Comments at 116 (arguing that fresh look does not require a carrier to switch to another provider, but "to convert from one type of [incumbent] LEC service to another.").

[2075] Globalcom Nov. 14, 2002 *Ex Parte* Letter at 3.

[2076] *See Iowa Utils. Bd. v. FCC*, 120 F.3d at 813.

[2077] *Id.*

[2078] NuVox *et al*. Comments at 116.

698. Although we not persuaded that there are any legal requirements mandating that we adopt a fresh look for all special access contracts,[2079] the Commission may, in its discretion, take such action pursuant to its authority under sections 201 through 205 of the Act.[2080] We decline to pursue such a market-disrupting remedy in this instance because there is not sufficient evidence, in this record, of abuse of market power by the incumbent LECs or some other wrong that must be retroactively addressed here.[2081] We note that linking a price discount to a contractual term is a reasonable, accepted commercial practice, both inside and outside of the telecommunications industry. It is the specific application of such provisions, rather than the very existence, that could offend the Communications Act. Determining whether such provisions were applied unlawfully is a fact-intensive inquiry. In light of the likely marketplace disruption of adopting a fresh look policy along with the lack of specific evidence on the record, we are not convinced that the abrogation of negotiated terms will be in the public interest in this instance. We, nevertheless, caution incumbent LECs that their ability to apply termination penalties is not unfettered. We concur with the conclusion in the *UNE Remand Order* "that any substitution of unbundled network elements for special access would require the requesting carrier to pay any *appropriate* termination penalties required under volume or term contracts."[2082] Thus, to the extent a carrier can provide more specific evidence that incumbent LEC termination penalties are inappropriate, we will resolve such a matter through an enforcement proceeding.

699. Finally, although competitive carriers contend that incumbent LECs will receive a windfall in the absence of fresh look,[2083] we conclude that the inverse may be true as well. Competitive LECs that entered into long-term special access contracts benefited from term discount arrangements which allowed for lower costs. It may be unfair for these carriers to completely avoid costs they knowingly agreed to shoulder. Indeed, it would put them in a far better position than those competitive LECs that chose to avoid early termination provisions, and to select shorter contract periods with higher prices.

D. Transition Period

700. We recognize that many of our decisions in this Order will not be self-executing. Indeed, under the statutory construct of the Act, the unbundling provisions of section 251 are implemented to a large extent through interconnection agreements between individual carriers.[2084] The negotiation and arbitration of new agreements, and modification of existing

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[2079] Globalcom Nov. 14, 2002 *Ex Parte* Letter at 3.

[2080] *See, e.g.*, *Special Access Order*, 7 FCC Rcd at 7463, para. 40.

[2081] AT&T and Globalcom contend that long-term special access contracts were signed under the pressure of economic duress in order to provide economically feasible products to their customers. *See* AT&T Reply at 298; Globalcom Nov. 14, 2002 *Ex Parte* Letter at 2. On the record before us, we find insufficient evidence to demonstrate that carriers seeking long-term special access commitments were suffering under economic duress.

[2082] *UNE Remand Order*, 15 FCC Rcd at 3912, para. 486 n.985 (emphasis added).

[2083] *See, e.g.*, ALTS *et al*. Comments at 129.

[2084] *See* 47 U.S.C. § 252.

agreements to reflect these new rules, cannot be accomplished overnight. We recognize that many interconnection agreements contain change of law provisions that allow for negotiation and some mechanism to resolve disputes about new agreement language implementing new rules. Although some parties believe that the contract modification process requires Commission intervention in this instance, we believe that individual carriers should be allowed the opportunity to negotiate specific terms and conditions necessary to translate our rules into the commercial environment, and to resolve disputes over any new agreement language arising from differing interpretations of our rules.

701. Thus, to the extent our decision in this Order changes carriers' obligations under section 251, we decline the request of several BOCs that we override the section 252 process and unilaterally change all interconnection agreements to avoid any delay associated with renegotiation of contract provisions.[2085] Permitting voluntary negotiations for binding interconnection agreements is the very essence of section 251 and section 252. We do not believe that the lag involved in negotiating and implementing new contract language warrants the extraordinary step of the Commission interfering with the contract process. We also recognize that commenters have argued that a Commission-mandated transition period is needed so carriers have time to adjust their business practices, and to make arrangements to accommodate their customers. Except as expressly provided above in Parts VI.A.4.a.(v).(a) and VI.D.4.c.(iii).(d), we decline to establish such a transition period and find, instead, that contract arrangements should govern. We note, however, that the practical effect of this negotiation of new terms may be that parties are provided a transition period.

[2085] *See* Letter from Cronan O'Connell, Vice President – Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket 01-338 at 10 (filed Nov. 21, 2002) (Qwest Nov. 21, 2002 *Ex Parte* Letter) (arguing that competitive LECs "typically claim that change of law provisions are not self-executing"); *see also* Letter from Michael K. Kellogg, Counsel for SBC, Qwest and BellSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket 01-338 at 3-5 (filed Jan. 21, 2003) (SBC/Qwest/BellSouth Jan. 21, 2003 *Ex Parte* Letter) (arguing that the Commission may "negate" certain contract terms under the *Mobile-Sierra* doctrine). Competitive LECs, however, have forcefully argued that the *Mobile-Sierra* doctrine does not apply to interconnection agreements that are filed with the states. *See* Letter from Christopher J. Wright, Counsel for Z-Tel, to Marlene H. Dortch, Secretary, FCC, CC Docket 01-338 at 5-9 (filed Jan. 30, 2003); *see also* AT&T Feb. 3, 2003 *Ex Parte* Letter; Letter from Broadview Networks *et al*. to Marlene H. Dortch, Secretary, FCC, CC Docket 01-338 (filed Feb. 3, 2003).

[2087] Section 252(a)(1) states that "[u]pon receiving a request for interconnection, services, or network elements pursuant to section 251, an incumbent local exchange carrier may negotiate and enter into a binding agreement with the requesting telecommunications carrier or carriers." If the parties cannot reach agreement, the party requesting interconnection, services, or network elements may petition the relevant state commission to arbitrate the dispute. *See* 47 U.S.C. § 252(b)(1). Such petitions must be submitted between the 135th to the 160th day (inclusive) after the date on which an incumbent LEC received the request for interconnection, services, or network elements. *Id.* The state Commission must resolve the dispute no later than nine months after the date on which the incumbent LEC received the request for interconnection, services, or network elements. *See* 47 U.S.C. § 252(b)(4)(C). Although section 252(a)(1) and section 252(b)(1) refer to requests that are made *to* incumbent LECs, we find that in the interconnection amendment context, either the incumbent or the competitive LEC may make such a request, consistent with the parties' duty to negotiate in good faith pursuant to section 251(c)(1).

702. While we decline to depart from the section 252 process, we believe that additional guidance is needed here to ensure that parties make the necessary changes to their interconnection agreements in response to this Order in a timely manner. We, therefore, provide some guidance below to give individual carrier negotiations a framework that will avoid undue delay or confusion.

703. First, we require incumbent and competitive LECs to use section 252(b) as a default timetable for modification of interconnection agreements that are silent concerning change of law and/or transition timing.[2087] We find that delay in the implementation of the new rules we adopt in this Order will have an adverse impact on investment and sustainable competition in the telecommunications industry. Therefore, to ensure that there is no undue delay in commencing the renegotiation of interconnection provisions, the effective date of the rules we adopt in this Order shall be deemed the notification or request date for contract amendment negotiations under this default approach. We believe that this requirement will ensure that carriers will begin immediately to negotiate in good faith pursuant to section 251(c)(1) of the Act to modify their interconnection agreements to the extent necessary in view of the rules we adopt today.[2088] Further, under the section 252(b) timetable, where a negotiated agreement cannot be reached, parties would submit their requests for state arbitration as soon as 135 days after the effective date of this Order but no longer than 160 days after this Order becomes effective.[2089] In turn, the state commissions would conclude their consideration of such disputes within nine months of the effective date of this Order.[2090] We will rely on state commissions to be vigilant in monitoring compliance with the provisions of sections 251 and 252. Although parties have sought to have the Commission intervene in this process, we believe that the statutory maximum transition period of nine months will ensure an orderly transition to the new rules. We further note that the nine-month period outlined by Congress is reasonably consistent with the transition periods sought by the parties.[2091]

704. Second, we believe that the section 252 process described above provides good guidance even in instances where a change of law provision exists. As under the default process described above, we expect that parties would begin their change of law process promptly. Once a contract change is requested by either party, we expect that negotiations and any timeframe for resolving the dispute would commence immediately. We also find that the section 251(c)(1) duty to negotiate in good faith applies to these contract modification discussions, as they do under the section 252 process. Accordingly, any refusal to negotiate or cooperate with the

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[2088] For example, negotiation or modification requests received before the rules become effective would not start the negotiation clock. In addition, a party cannot contend that the negotiation time period did not begin because another party failed to send a request for negotiation because such actions do not constitute the trigger for negotiations. Instead, as indicated above, negotiations will be deemed to commence upon the effective date of this Order.

[2089] *See* 47 U.S.C. § 252(b)(1).

[2090] *See id.* § 252(b)(4).

[2091] *See, e.g.*, Eschelon Comments at 18-19.

contractual dispute resolution process, including taking actions that unreasonably delay these processes, could be considered a failure to negotiate in good faith and a violation of section 251(c)(1).[2092] Finally, to the extent a contractual change of law provision envisions a state role, we believe a state commission should be able to resolve a dispute over contract language at least within the nine-month timeframe envisioned for new contract arbitrations under section 252.

705. Third, we recognize that some BOCs are concerned that the negotiation process may be unnecessarily delayed where a change of law provision provides for interconnection agreement modification pursuant to "legally binding intervening law or final and unappealable [judicial] orders."[2093] In essence, these companies contend that it would be inappropriate to read these provisions as being triggered only after all appeals of this Order become final and unappealable. Instead, the BOCs contend that the only logical reading of such provisions is that such provisions are triggered when the decision of the D.C. Circuit reversing the Commission's prior UNE rules becomes final and nonappealable.[2094] We believe that the BOCs' interpretation of such provisions is reasonable and that either a court or a state commission would agree with such a reading. Indeed, once the *USTA* decision is final and no longer subject to further review, or the new rules adopted in this Order become effective, the legal obligation upon which the existing interconnection agreements are based will no longer exist.[2095] Given that the prior UNE rules have been vacated and replaced today by new rules, we believe that it would be unreasonable and contrary to public policy to preserve our prior rules for months or even years pending any reconsideration or appeal of this Order.

706. Finally, we reiterate that section 251(c) imposes a good faith negotiation requirement that applies to both incumbent LECs and competitive LECs. Based on past history, we understand that parties may disagree significantly on what constitutes a breach of the good faith negotiation requirement. While we realize that whether a carrier violates its section 251(c)(1) is a fact-specific inquiry, we nevertheless admonish all parties to avoid gamesmanship and behavior that may reasonably lead to a finding of bad faith. For example, parties may not refuse to negotiate any subset of the rules we adopt herein. Once the rules established herein are effective, and any applicable change of law process has been triggered, a party's refusal to negotiate (or actions that would otherwise delay unnecessarily the resolution of) any single issue may be deemed a violation of section 251(c)(1).

[2092] 47 U.S.C. § 251(c)(1). As we have recognized in the past, a failure to engage in change of law negotiations may constitute a failure to negotiate in good faith under section 251(c)(1). *See Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, Order on Reconsideration and Second Further Notice of Proposed Rulemaking, 15 FCC Rcd 17806, 17825-26, paras. 34-36 (2000).

[2093] SBC/Qwest/BellSouth Jan. 21, 2003 *Ex Parte* Letter at 2.

[2094] *See USTA*, 290 F.3d at 415.

[2095] SBC/Qwest/BellSouth Jan. 21, 2003 *Ex Parte* Letter at 2.

E. Periodic Review of National Unbundling Rules

1. Background

707. Our decisions in this Order regarding the network elements that should be unbundled are consistent with the determination in the *UNE Remand Order* that rapid changes in technology, competition, and the economic conditions of the telecommunications market would require amendments to the list of UNEs that meet the standards of section 251(d)(2).[2096] To ensure that the list of UNEs is current and responsive to market and economic realities, the Commission further determined in the *UNE Remand Order* that it would periodically review its rules in this area.[2097]

708. At the time of the *UNE Remand Order*, three years had passed since the Commission first adopted unbundling requirements and considerable market changes had taken place that required the Commission to reassess the availability of elements outside the incumbent LECs' networks.[2098] While a constantly evolving marketplace makes such review necessary, the Commission wisely concluded that modifications to the list must be done systematically: "[e]ntertaining, on an *ad hoc* basis, numerous petitions to remove elements from the list, either generally or in particular circumstances, would threaten the certainty that we believe is necessary to bring rapid competition to the greatest number of consumers."[2099] In order to provide market certainty, the Commission declined to adopt an automatic sunset mechanism for removing unbundling obligations and instead chose a three-year review period.[2100]

709. In the *Triennial Review NPRM*, the Commission sought comment on whether the Commission should continue with a fixed-period review process that bars the filing of petitions to remove unbundling obligations between cycles, and whether the Commission should adopt a sunset approach to removing unbundling obligations.[2101] In particular, the Commission sought comment on whether a sunset period for remaining unbundling obligations could create incentives for facilities deployment and investment.[2102] The Commission also invited parties to provide guiding principles that should be employed to determine whether and how existing unbundling rules should be modified on an ongoing basis.[2103] To the extent a periodic review

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[2096] *UNE Remand Order*, 15 FCC Rcd at 3765, paras. 148-49.

[2097] *Id*. at 3765, para. 148.

[2098] *Id*. at 3765, para. 149. The Commission explained that even as early as 1999, there was evidence that competition was developing in some geographic markets for certain customer groups.

[2099] *Id*. at 3765-66, para. 150.

[2100] *Id*. at 3766, para. 151.

[2101] *Triennial Review NPRM*, 16 FCC Rcd at 22817-18, para. 80.

[2102] *Id*.

[2103] *Id*.

period is retained the Commission also sought comment on whether three years is the appropriate length for the review cycle in light of competitors' experiences with network design, ability to attract investment, and execution of their business strategies.[2104] The *Triennial Review NPRM* also sought comment on whether triennial UNE review was consistent with the requirement of section 11 of the Act to review in even-numbered years whether regulations in effect continue to serve the public interest.[2105]

2. Discussion

710. We conclude that a commitment to a further *de novo* triennial review is not necessary at this time. Rather, as the Commission does with all of its other rules, we will rely on the biennial review mechanism established in section 11 of the Act.[2106] This is not *de novo* review. Instead, consistent with its biennial review procedures, the Commission's review will be limited to assessing whether documented market changes merit modifications in our rules. We conclude that reopening every issue on a biennial basis is not in the public interest because it would increase regulatory uncertainty unnecessarily in this area. We also note that in the period between biennial reviews, it will be the policy of this Commission not to entertain *ad hoc* motions or petitions to remove or add UNEs, and we will summarily dismiss such petitions to ensure certainty in the marketplace.

711. We specifically decline the suggestion of BellSouth and Verizon to adopt a sunset period for our UNE rules.[2107] Verizon argues that the Commission must set a firm sunset date no longer than three years for the elimination of all remaining UNEs to ensure that competitive LECs make prudent investments and to minimize obstacles to investment by the incumbent LECs.[2108] Several commenters oppose a sunset period for UNEs as unnecessary and inconsistent with key goals of the Act.[2109] We agree. We find that, considering the complexity of the analysis required to apply the impairment standard, a sunset provision would be arbitrary, would risk premature withdrawal of UNEs, and would be likely to undercut incumbent LEC incentives to comply as the sunset date approaches.[2110] Moreover, the adoption of a sunset provision is

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[2104] *Id*. at 22818, para. 81.

[2105] *Id*. ("Although our completion of the instant review in 2002 satisfies both review cycles, we seek comment on whether the Commission could wait until 2005 for a subsequent UNE review, or whether section 11 requires a UNE review in 2004.").

[2106] 47 U.S.C. § 161.

[2107] BellSouth Comments at 66, 72; Verizon Reply at 62-63.

[2108] Verizon Reply at 60-61.

[2109] ASCENT Comments at 50; CompTel Comments at 87; ALTS *et al*. Comments at 124; WorldCom Comments at 64-65; Eschelon Comments at 17-18; LDMI Comments at 13.

[2110] ALTS *et al*. Comments at 124; ASCENT Comments at 50; CompTel Comments at 87; Eschelon Comments at 17-18; WorldCom Comments at 64-65.

inconsistent with the requirements of the Act. Sections 251(c) and (d) require the Commission to use objective criteria to determine impairment.[2111] Notably, section 251(d) sets out the necessary and impair standard as the statutory floor for the Commission's UNE review.[2112] Thus, under the Act, UNEs remain so long as impairment remains. The mere passage of time cannot replace this statutory mandate.[2113]

F. Duty to Negotiate in Good Faith

712. We amend our duty-to-negotiate rule 51.301(c)(8)(ii) to make the rule conform to the text of the *Local Competition Order*. In that order the Commission stated a new entrant could reasonably withhold information about its own costs because the negotiations concern unbundling or leasing of the incumbent LECs' networks, not the new entrants' networks. Rule 51.301(c)(8)(ii) states that refusal by a requesting telecommunications carrier to furnish cost data that would be relevant to setting rates if the parties were in arbitration is among the actions or practices that violate the duty to negotiate in good faith.[2114] The text of the *Local Competition Order*, by contrast, states that it would *not* be unreasonable for a new entrant to withhold information about its own costs because the negotiations do not concern unbundling or leasing the new entrants' networks.[2115] We therefore amend rule 51.301(c)(8)(ii) to correct this typographical error and replace the word "requesting telecommunications carrier" with "incumbent LEC."

IX. FURTHER NOTICE OF PROPOSED RULEMAKING

713. In this proceeding and in comments filed in response to a related Petition for Forbearance and Rulemaking filed by Mpower Communications (Mpower May 25, 2001 Petition),[2116] several parties have argued that the Commission should reconsider its current rules implementing section 252(i) (*i.e.*, "pick-and-choose rule"), under which requesting carriers are

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[2111] 47 U.S.C. §§ 251(c), 251(d).

[2112] "In determining what network elements should be made available for purposes of subsection (c)(3), the Commission should consider *at a minimum*, whether – (A) access to such network elements as are proprietary in nature is necessary; and (B) the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer." 47 U.S.C. § 251(d)(2) (emphasis added).

[2113] Eschelon Comments at 17-18.

[2114] 47 C.F.R. § 51.301(c)(8)(ii). The rule 51.301 states in relevant part that: "(c) If proven to the Commission, an appropriate state commission, or a court of competent jurisdiction, the following actions or practices, among others, violate the duty to negotiate in good faith: . . . (8) Refusing to provide information necessary to reach agreement. Such refusal includes, but is not limited to: . . . (ii) Refusal by a requesting telecommunications carrier to furnish cost data that would be relevant to setting rates if the parties were in arbitration."

[2115] *Local Competition Order*, 11 FCC Rcd at 15577-78, para. 155 (emphasis added).

[2116] Mpower Communications Corp. Petition for Forbearance and Rulemaking, CC Docket No. 01-117 (filed May 25, 2001) (Mpower May 25, 2001 Petition).

permitted to opt into individual portions of interconnection agreements without accepting all the terms and conditions of such agreements.[2117] In the view of Mpower, a competitive LEC, and several incumbent LECs, this regime has impeded the type of marketplace negotiations that Congress intended to make a centerpiece of the transition from regulated monopolies to competition. In this section, we seek comment on whether the Commission should alter its interpretation of section 252(i) to promote more meaningful commercial negotiations. We tentatively conclude that a modified approach would better serve the goals embodied in section 252(i) and sections 251-252 generally. As discussed more fully below, once an incumbent LEC obtains state approval of a statement of generally available terms and conditions (SGAT) pursuant to section 252(f) – which essentially functions as a standardized interconnection agreement – the incumbent LEC and competitive carriers then would be permitted to negotiate alternative agreements that third parties could opt into only in their entirety or not at all.

714. We hereby incorporate the Mpower May 25, 2001 Petition and the comments and *ex parte* presentations in CC Docket No. 01-117 into this docket. Commenters need not resubmit material previously filed in these proceedings.

A. Background

715. Section 252(i) of the Act provides that a "local exchange carrier shall make available any interconnection, service or network element provided under an agreement approved under [Section 252] to which it is a party to any other requesting carrier upon the same terms and conditions as those provided in the agreement."[2118] When the Commission initially sought comment on the appropriate interpretation of section 252(i), competitive LECs generally argued that they should be entitled to opt into each distinct term and condition in an interconnection agreement approved pursuant to section 252.[2119] Incumbent LECs, by contrast, argued that such an approach would deter meaningful negotiations, because an incumbent LEC would be reluctant to make any significant concession (in exchange for some benefit) for fear that the concession would, without all of the bargained-for considerations, become available to every potential entrant in the market.[2120] In the *Local Competition Order*, the Commission adopted the interpretation advanced by competitive carriers, finding that "incumbent LECs must permit third parties to obtain access under section 252(i) to any *individual* interconnection, service or network element arrangement on the same terms and conditions as those contained in any agreement approved under section 252."[2121] This decision has allowed competitive carriers to "pick and choose" any provision in an approved interconnection agreement between another competitor and the incumbent LEC.

[2117] 47 C.F.R. §§ 51.809(a)-(c).

[2118] 47 U.S.C. § 252(i).

[2119] *Local Competition Order*, 11 FCC Rcd at 16135-36, paras. 1304-05.

[2120] *Id.* at 16134, para. 1303.

[2121] *Id.* at 16139, para. 1314 (emphasis added); *see also* 47 C.F.R. § 51.809.

716. On review, the U.S. Court of Appeals for the Eighth Circuit vacated the pick-and-choose rule, holding that it would unreasonably deter voluntarily negotiated agreements "by making incumbent LECs reluctant to grant quids for quos, so to speak, for fear that they would have to grant others the same quids without receiving quos."[2122] The Supreme Court reversed the Eighth Circuit and reinstated the rule. The Court agreed with the incumbent LECs that it would be "eminently fair" if "[a] carrier who wants one term from an existing agreement . . . [were] required to accept *all* the terms in the agreement."[2123] The Court held, however, that the Commission's interpretation of section 252(i) was reasonable (and indeed the "most readily apparent" reading of section 252(i)), because it closely tracked the statutory text.[2124] Ultimately, the Court concluded that the question of "whether the Commission's approach will significantly impede negotiations (by making it impossible for favorable interconnection- service or network-element terms to be traded off against unrelated provisions) is a matter eminently within the expertise of the Commission and eminently beyond our ken."[2125]

717. In its petition, Mpower Communications, a competitive LEC, seeks relief from the pick-and-choose requirement, arguing that the rule "inhibit[s] innovative deal-making."[2126] Mpower observes that the existing rule has produced "a great sameness and very little meaningful choice."[2127] In an effort to "'add an arrow to the quiver' of ILECs and CLECs who want to make competition work,"[2128] Mpower proposes authorizing "FLEX contracts" as an alternative to the pick-and-choose regime. A FLEX contract would be a voluntarily negotiated wholesale agreement between an incumbent LEC and a competitive LEC that other carriers could opt into only as a "package deal" – that is, they would be required to accept the entire agreement "rather than be able to pick just 'the best parts' of the deal."[2129] To accomplish this goal, Mpower argues that the Commission should forbear from section 252(i), as well as from the requirement in section 252(e) to submit interconnection agreements for state commission approval.[2130] Only the Commission would be permitted to enforce the terms of FLEX contracts, and such terms would not be admissible in any "unrelated proceeding."[2131] Creating this safe

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[2122] *Iowa Utils. Bd.*, 525 U.S. at 377 (citing *Iowa Utils. Bd. v. FCC*, 120 F.3d at 801).

[2123] *Id*. at 395-96.

[2124] *Id*. at 396.

[2125] *Id.*

[2126] Mpower May 25, 2001 Petition at 9.

[2127] *Id.*

[2128] *Id.* at 4.

[2129] *Id.* at 8.

[2130] *Id*. at 14-15.

[2131] *Id*. at 16.

harbor from the pick-and-choose rule, Mpower argues, would pave the way toward improved wholesale relationships between incumbent LECs and competitive carriers.[2132]

718. Several parties filed comments in response to the Mpower May 25, 2001 Petition. Incumbent LECs support the Petition, arguing that the pick-and-choose rule undermines the regime of commercial negotiations envisioned by Congress.[2133] Commenters opposing the Mpower May 25, 2001 Petition object to circumventing the requirement of state commission approval of interconnection agreements, arguing that the forbearance standard is not satisfied.[2134] These commenters also express the concern that requiring competitors to opt into an entire FLEX contract would enable incumbent LECs to create "poison pills" – "provisions that do not negatively affect the contracting parties but that would make the contract unpalatable to other carriers."[2135]

719. In a January 17, 2003 *ex parte* letter, Verizon, joined by BellSouth, SBC and Qwest, press for the abandonment of the pick-and-choose rule, arguing that it permits a competitive LEC "to cherry-pick individual provisions of any approved interconnection agreement previously negotiated under § 252 between an [ILEC] and another CLEC, without any obligation to accept the remaining provisions of the agreement."[2136] These carriers contend that "[e]liminating the pick-and-choose rule entirely, not merely for Mpower's proposed flexible contract mechanism, would encourage mutually beneficial business relationships between ILECs and CLECs, as opposed to the adversarial, regulation-based relationships that are more typical today."[2137]

B. Request for Comment

720. We seek comment on whether the Commission should eliminate the pick-and-choose rule and substitute an alternative interpretation of section 252(i). We agree with commenters that, as the Commission implements a granular analysis under which some network elements will no longer be available on an unbundled basis in all markets, it will be especially important for the Commission "to provide market-based incentives for incumbents and CLECs

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[2132] *Id.* at 17.

[2133] *See, e.g.*, Verizon Comments on Mpower May 25, 2001 Petition at 2; BellSouth Comments on Mpower May 25, 2001 Petition at 2; Qwest Comments on Mpower May 25, 2001 Petition at 1.

[2134] *See, e.g.*, AT&T Comments on Mpower May 25, 2001 Petition at 3-4; Focal Comments on Mpower May 25, 2001 Petition at 5-6; Sprint Comments on Mpower May 25, 2001 Petition at 3; ASCENT Comments on Mpower May 25, 2001 Petition at 8.

[2135] AT&T Comments on Mpower May 25, 2001 Petition at 3.

[2136] *See* Verizon Jan. 17, 2003 *Ex Parte* Letter at 1.

[2137] Verizon Jan. 17, 2003 *Ex Parte* Letter at 3.

to negotiate innovative commercial alternatives to the UNE platform"[2138] and other network elements and interconnection arrangements.

721. As an initial matter, we seek comment on the Commission's legal authority to alter its interpretation of the statute. As the Supreme Court observed, the pick-and-choose rule "tracks the pertinent language almost exactly" and is the "most readily apparent" reading of the statute.[2139] The Court also stated, however, that judging whether the pick-and-choose rule "will significantly impede negotiations (by making it impossible for favorable interconnection-service or network-element terms to be traded off against unrelated provisions) is a matter eminently within the expertise of the Commission and eminently beyond our ken."[2140] Reading these statements together, we tentatively conclude that the Commission may adopt a different rule pursuant to section 252(i), provided the Commission's modified rule remains a reasonable interpretation of the statutory text.[2141] We seek comment on this analysis.

722. We next seek comment on the extent to which the pick-and-choose rule impedes meaningful negotiations. Mpower contends that, "[f]rom the standpoint of innovative and effective contracting," negotiations under the pick-and-choose regime are "reminiscent of the Gobi Desert."[2142] Incumbent LECs generally echo this sentiment, stating that "the pick-and-choose rule has produced one-size-fits-all agreements that function much like generally applicable tariffs."[2143] We tentatively conclude based on our experience since 1996 that Mpower and other commenters are correct that the pick-and-choose rule discourages the sort of give-and-take negotiations that Congress envisioned. The record produced in response to the Mpower May 25, 2001 Petition indicates that incumbent LECs seldom make significant concessions in return for some trade-off for fear that third parties will obtain the equivalent benefits without making any trade-off at all.[2144] Parties that disagree with this assessment should provide concrete evidence that meaningful negotiations in fact occur under the pick-and-choose rule.

723. Competitive carriers identify two primary concerns with Mpower's proposal to allow voluntary FLEX contracts as an alternative to the existing pick-and-choose process —

[2138] *Id.* at 2.

[2139] *Iowa Utils. Bd.*, 525 U.S. at 396.

[2140] *Id.*

[2141] *See* Verizon Jan. 17, 2003 *Ex Parte* Letter at 4 (citing *Clinchfield Coal Co. v. Federal Mine Safety & Health Review Comm'n*, 895 F.2d 773, 777-78 (D.C. Cir. 1990) (holding that agency may replace previously affirmed reasonable interpretation of statute with a different reasonable interpretation, even if a reviewing court assumes that the previous view "was the better one.").

[2142] Mpower May 25, 2001 Petition at 9.

[2143] Verizon Jan. 17, 2003 *Ex Parte* Letter at 3.

[2144] *See, e.g.*, Verizon Comments on Mpower May 25, 2001 Petition at 2; Qwest Comments on Mpower May 25, 2001 Petition at 1-2; BellSouth Comments on Mpower May 25, 2001 Petition at 2-3; USTA Reply on Mpower May 25, 2001 Petition at 3-4.

concerns that would apply equally to any proposal to replace the existing rule with a requirement to opt into entire agreements as package deals. First, commenters argue that if competitive carriers were required to opt into an entire agreement rather than individual provisions, incumbent LECs would insert "poison pills" into agreements to make them unsuitable for adoption by third parties.[2145] The Commission credited this argument in the *Local Competition Order*, where it observed that "failure to make provisions available on an unbundled basis could encourage an incumbent LEC to insert into its agreement onerous terms for a service or element that the original carrier does not need, in order to discourage subsequent carriers from making a request under that agreement."[2146] The Commission accordingly opined that "requiring requesting carriers to elect an entire agreement would appear to eviscerate the obligation Congress imposed in section 252(i)."[2147] Second, in response to Mpower's suggestion that FLEX contracts exist alongside the pick-and-choose rule, commenters argue that there is no valid basis for exempting carriers from the requirement to submit interconnection agreements for state commission approval or from other requirements in section 252.[2148]

724. We believe that the concerns expressed in the *Local Competition Order* remain valid, but, in light of the shortcomings of the pick-and-choose regime, we seek comment on whether an alternative interpretation of section 252(i) could restore incentives to engage in give-and-take negotiations while maintaining effective safeguards against discrimination. We ask commenters to address whether concerns expressed previously by the Commission about "poison pills" and other types of discrimination could be addressed through narrower means than the current pick-and-choose rule. We also seek comment on whether any new rule adopted pursuant to an alternative interpretation of section 252(i) should be applied to all existing approved interconnection agreements or only those interconnection agreements approved prior to the adoption of such new rule.

725. We seek comment on the following proposal and whether it would address the criticisms of the current pick-and-choose rule without undermining competitors' rights under the Act. If incumbent LECs do not file and obtain state approval for a SGAT, the current pick-and-choose rule would continue to apply to all approved interconnection agreements between the incumbent LEC and other carriers. If incumbent LECs do file and obtain state approval for a SGAT, however, the current pick-and-choose rule would apply solely to the SGAT, and all other approved interconnection agreements would be subject to an "all-or-nothing" rule requiring carriers to adopt the interconnection agreement in its entirety.[2149] The SGAT condition would

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[2145] *See, e.g.*, AT&T Reply on Mpower May 25, 2001 Petition at 3.

[2146] *Local Competition Order*, 11 FCC Rcd at 16138, para. 1312.

[2147] *Id.*

[2148] *See, e.g.*, WorldCom Comments on Mpower May 25, 2001 Petition at 5-6.

[2149] As discussed below in paragraph 727, we acknowledge that only BOCs are subject to § 252(f) and seek comment on whether we can provide alternate means for non-BOC incumbent LECs to meet our proposed SGAT condition.

guarantee competitors access to a minimum set of terms and conditions for interconnection and access to UNEs or resale (or services provided pursuant to section 251). Once the incumbent LEC met the SGAT condition, the incumbent LEC would be free to negotiate more customized agreements with the knowledge that third parties would be limited to opting into the entirety of such agreements, rather than taking individual terms without making any trade-offs.[2150]

726. We note that such an approach, unlike Mpower's FLEX contract proposal, would leave in place all of the safeguards in sections 251 and 252. The Commission would not exercise any forbearance authority. Rather, the Commission would reinterpret section 252(i) to limit carriers' opt-in rights to the entire agreement, subject to the SGAT condition. Importantly, states would be able to draw on their considerable expertise in deciding whether to approve an SGAT. Moreover, any "customized" agreement entered into, subsequent to the satisfaction of the SGAT requirement, would continue to be subject to the duty of good faith negotiation in section 251(c)(1), as well as the state approval requirement in section 252(e). Incumbent LECs also would remain subject to the nondiscrimination provisions and other safeguards in sections 201 and 202 of the Act.

727. We seek comment on the reasonableness of interpreting section 252(i) to allow carriers to opt into entire agreements, but not individual provisions, subject to satisfaction of the above described SGAT condition. We recognize that section 252(f) refers only to BOCs, rather than to incumbent LECs generally. We seek comment on whether conditioning a departure from the pick-and-choose rule on approval of an SGAT – but not otherwise making non-BOC incumbent LECs subject to section 252(f) – would be consistent with the statute.[2151] We also seek comment on whether this conditional approach would adequately address the shortcomings in the existing pick-and-choose rule. Moreover, would such an approach adequately protect competitors from discrimination and other anti-competitive effects? Would the SGAT condition, together with the preservation of the good-faith obligation and nondiscrimination safeguards, be sufficient to prevent the more limited approach to opt-in rights from "eviscerat[ing] the obligation Congress imposed in section 252(i)"?[2152] We seek comment on whether the proposal described above would be workable for all classes of carriers, including smaller competitive

[2150] If the Commission were to adopt such a rule change, state commissions could not prevent its implementation by rejecting a proposed interconnection agreement on the ground that it is available to competitors only on a package-deal basis. Rather, the state commission could reject a customized agreement as discriminatory only if the commission found that the parties intended to discriminate against other carriers. The fact that a third party might be unable to opt into the agreement as a practical matter would not constitute unreasonable discrimination in light of the availability of interconnection, UNEs, and services under the state-approved SGAT.

[2151] Although § 252(f) applies specifically only to BOCs, in order to provide the same opportunity to non-BOC incumbent LECs to enter into customized agreements, we would allow non-BOC incumbent LECs to file a single interconnection agreement for state approval and designate it as an SGAT-equivalent that is subject to the current pick-and-choose rule. Because non-BOC incumbent LECs already file multiple interconnection agreements for state approval under the current pick-and-choose rule, this requirement would not impose any new requirements on non-BOC incumbent LECs, but rather provide them with the same opportunity we propose to provide BOCs to adopt more customized interconnection agreements with third parties.

[2152] *Local Competition Order*, 11 FCC Rcd at 16138, para. 1312.

LECs that lack the resources of larger competitors. We ask commenters to describe any relevant experience requesting or provisioning network elements and services out of SGATs.

728. We tentatively conclude that limiting carriers' opt-in rights to entire agreements (subject to satisfaction of the SGAT condition) would be consistent with the text of section 252(i), which requires only that an incumbent LEC "make available any interconnection, service, or network element provided under an agreement approved under [section 252] to which it is a party to any other requesting telecommunications carrier *upon the same terms and conditions* as those provided in the agreement."[2153] We note that the ambiguous nature of this italicized phrase prompted the Supreme Court to conclude that the appropriate interpretation of section 252(i) is "eminently within the Commission's expertise."[2154] Our view on the reasonableness of the interpretation proposed above is strongly influenced by our tentative judgment that conditioning relief from the pick-and-choose rule on an SGAT requirement would strike an appropriate balance among the competing policy interests at stake. We seek comment on these tentative conclusions.

729. Finally, we seek comment on other means of restoring the congressional goal of meaningful marketplace negotiations. Are there modifications to the approach described above that would better serve the statutory goals? Would a different approach be preferable? We ask commenters to describe in detail any proposal and explain how the proposal (a) would restore market-based incentives to negotiate, and (b) protect competitors from discrimination.

X. PROCEDURAL ISSUES

A. Final Regulatory Flexibility Analysis

730. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[2155] an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the Federal Register summary of the *Triennial Review NPRM*.[2156] The Commission sought written public comments on the proposals in the *Triennial Review NPRM*, including comments on the IRFA. Comments addressed the proposals contained in the *Triennial Review NPRM,* as well as the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) addresses comments on the IRFA and conforms to the RFA.[2157]

[2153] 47 U.S.C. § 252(i) (emphasis added).

[2154] *Iowa Utils. Bd.*, 525 U.S. at 396.

[2155] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2156] 67 Fed. Reg. 1947 (Jan. 15, 2002).

[2157] *See* 5 U.S.C. § 604.

1. Need for, and Objectives of, the Rules

731. This Order fulfills the commitment the Commission undertook in its 1999 *UNE Remand Order* to reexamine, in three years, the list of network elements that incumbent LECs must offer to competitors on an unbundled basis, and responds to several significant judicial rulings that have been issued since the Commission last conducted a comprehensive review of its unbundling rules.[2158] More specifically, this Order refines the "impair" standard set forth in section 251(d)(2) of the Act, and applies the revised standard to an array of "transmission" and "intelligence" network elements. The revised "impair" standard is designed to reflect both the experience of the local service market during the seven years since the Act's market-opening provisions took effect and the legal guidance mentioned above. Applying this standard, which pays special attention to the requesting carrier's ability to self-provision the element or to obtain it from a source other than the incumbent LEC, this Order adopts a list of network elements that must be unbundled and sets forth the particular circumstances in which unbundling will be required. The approach adopted is substantially more granular than our earlier formulations of the "impair" standard, accounting for considerations of customer class, geography, and service. This Order also reaffirms a state commission's authority to establish unbundling requirements, as long as the unbundling obligations are consistent with the requirements of section 251(d)(3) and do not substantially prevent implementation of the requirements of that section and the purposes of the Act, and authorizes state commissions to make certain factual determinations necessary to implementation of the granular analysis we adopt here.

2. Summary of Significant Issues Raised by the Public Comments in Response to the IRFA

732. In this section, we respond to various arguments raised by TeleTruth, the National Federation of Independent Businesses (NFIB), and the Office of Advocacy of the Small Business Administration (SBA Advocacy) relating to the IRFA presented in the *Triennial Review NPRM*.[2159] We also address concerns raised by Senator (then-Representative) James Talent in a letter submitted in response to the *UNE Remand Order*, which was later incorporated into this proceeding.[2160] To the extent we received comments raising general small business concerns during this proceeding, those comments are discussed throughout the Order and are summarized in Part X.A.5, below.

733. As an initial matter, we reject the contention that the Commission failed to consider the needs of small business customers of competitive LECs in fashioning the analysis set forth in this Order. We have grappled, throughout this proceeding and throughout this Order, with the consequences our determinations will have on all market participants, including small

[2158] *See, e.g.*, *Verizon*, 535 U.S. 467; *CompTel*, 309 F.3d 8; *USTA*, 290 F.3d 415.

[2159] TeleTruth's reply comments were filed in several separate dockets, and are not specific to the IRFA prepared for this proceeding. *See generally TeleTruth Reply.* Here, we address only those concerns pertinent to this proceeding. We will address TeleTruth's remaining arguments in subsequent Orders, as appropriate.

[2160] *Triennial Review NPRM*, 16 FCC Rcd at 22788, para. 13.

business providers and the small business end users about which TeleTruth, NFIB, SBA Advocacy, and Senator Talent express concern.[2161] We have also considered various alternatives to the rules we adopt, and have stated the reasons for rejecting these alternative rules, as commenters have urged.[2162] A summary of our analysis regarding small business concerns, and of alternative rules that we considered in light of those concerns, is presented in subsection 5 of the FRFA, *infra*.

734. Many of the complaints raised regarding the Commission's IRFA hinge on the argument that in performing the analysis mandated by the RFA, an agency must analyze the effects its proposed rules will have on "customers" of the entities it regulates.[2163] But as the courts have made clear time and again, this is not the case. Indeed, the D.C. Circuit "has consistently held that the RFA imposes no obligation to conduct a small entity impact analysis of effects on entities which [the agency conducting the analysis] does not regulate."[2164] Thus, we emphasize that the RFA imposes no independent obligation to examine the effects an agency's action will have on the customers of the companies it regulates unless those customers are, themselves, subject to regulation by the agency. In any event, as noted above, we have considered the needs of small business customers of competitive (and incumbent) LECs

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[2161] For example, we have considered the argument that new unbundling rules will affect competitive LECs' broadband capabilities, and in turn end users' access to broadband service. *See supra* Part VI.A.4.a; *see also* TeleTruth Reply at 37.

[2162] *See* TeleTruth Reply at 26; Letter from Dan Danner, Senior Vice President – Public Policy, NFIB, to Michael K. Powell, Chairman, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 1 (filed Feb. 5, 2003) (NFIB Feb. 5, 2003 *Ex Parte* Letter); Letter from Thomas M. Sullivan, Chief Counsel for SBA Advocacy, to Michael K. Powell, Chairman, FCC, CC Docket Nos. 01-338, 96-98, 98-147 at 4 (filed Feb. 5, 2003) (SBA Advocacy Feb. 5, 2003 *Ex Parte* Letter); Letter from James M. Talent, Chairman, Committee on Small Business, House of Representatives, to William Kennard, Chairman, FCC, CC Docket No. 96-98 at 2, 3 (filed July 20, 2000) (Talent July 20, 2000 *Ex Parte* Letter); 5 U.S.C. § 604(a)(5).

[2163] *See, e.g.*, TeleTruth Reply at 15 (asserting that "[t]he [c]ustomer" had been "[t]otally [l]eft [o]ut" of the proceeding and contending that "[f]or the average customer, the [NPRM and other FCC documents] might as well be in Aramaic, or Urdic"), 16 (arguing that the RFA imposes a notice requirement vis-à-vis small businesses that happen to consume telecommunications services), 18 (alleging that the IRFA failed to address "small business . . . customers" of telecommunications providers), 20 ("The FCC has failed to accurately assess the number of small business entities that depend on [small telecommunications competitors], from the small business users to the small business suppliers."), 34-35 (presenting analysis of the number of online customers of ISPs potentially affected by Commission's rulemakings), 43 ("A 'class' of small businesses that is totally missing from [the IRFA] are the small businesses that depends [sic] on . . . ISPs and CLECs [that will be affected by the Commission's ruling]."); *see also* NFIB Feb. 5, 2003 *Ex Parte* Letter at 1 ("[T]he FCC should make certain that it fully considers the direct and indirect impacts of its rulemaking on small-business consumers. We urge the FCC to review all data to ensure that any action taken does not hinder the availability of competition for small businesses needing local telephone services.").

[2164] *Michigan v. EPA*, 213 F.3d 663, 689 (D.C. Cir. 2000) (internal quotation marks omitted); *see also Motor & Equip. Mfrs. Ass'n. v. Nichols*, 142 F.3d 449, 467 (D.C. Cir. 1998); *United Distribution Cos. v. FERC*, 88 F.3d 1105, 1170 (D.C. Cir. 1996); *American Trucking Ass'ns, Inc. v. EPA*, 175 F.3d 1027, 1044, *reh'g granted in part, denied in part* 195 F.3d 4 (D.C. Cir. 1999), *rev'd in part on other grounds*, 531 U.S. 457 (2001).

throughout this Order. Our analysis of small business concerns is summarized in Part X.A.5, below.

735. TeleTruth argues that the Commission has taken inadequate steps to notify small businesses of this and other proceedings, in violation of the RFA.[2165] We disagree. The RFA requires the Commission to "assure that small entities have been given an opportunity to participate in the rulemaking," and proposes as example five "reasonable techniques" that an agency might employ to do so.[2166] In this proceeding, the Commission has employed several of these techniques: it has published a "notice of proposed rulemaking in publications likely to be obtained by small entities";[2167] has "inclu[ded] . . . a statement that the proposed rule may have a significant economic effect on a substantial number of small entities" in the *Triennial Review NPRM*;[2168] has solicited comments over its computer network;[2169] and has acted "to reduce the cost or complexity of participation in the rulemaking by small entities" by, among other things, facilitating electronic submission of comments.[2170] We thus conclude that the Commission has satisfied its RFA obligation to assure that small companies were able to participate in this proceeding.

736. TeleTruth further contends that the Commission's IRFA was flawed by its use of "boilerplate" language that differed little from the language used in the IRFAs prepared for other proceedings.[2171] However, the only language it cites does not even appear in the IRFA prepared for this proceeding. Moreover, TeleTruth has suggested no reason why the use of similar language in several proceedings is at all problematic. Indeed, the particular language about which it complains merely describes the "number of telephone companies affected" by a given proceeding – a class that is likely to differ little, if at all, among industry-wide rulemakings such as this.

737. TeleTruth next complains that the IRFA used outdated census data from 1992 in estimating the number of small businesses that might be affected by the Commission's decisions

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[2165] *See* TeleTruth Reply at 16-18; Letter from Bruce Kushnick, Chairman, TeleTruth, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 at 5 (filed Feb. 5, 2003) (TeleTruth Feb. 5, 2003 *Ex Parte* Letter).

[2166] *See* 5 U.S.C. § 609.

[2167] 5 U.S.C. § 609(a)(2). We disagree with TeleTruth's argument that small companies pertinent to our analysis cannot be expected to learn of actions reported in the Federal Register. *See* TeleTruth Reply at 16. As explained above, the obligations imposed by the RFA relate only to companies regulated by the agency; TeleTruth has provided no reason to believe that small *telecommunications* companies would be unfamiliar with the Federal Register, in which all federal regulations pertinent to those companies' operations are published.

[2168] 5 U.S.C. § 609(a)(1).

[2169] *Id.* § 609(a)(2).

[2170] *Id.* § 609(a)(5).

[2171] *See* TeleTruth Reply at 19-20.

here.[2172] While certain 1997 census data became available in late 2000 and were not incorporated into the previous NPRM, this updating would not, we believe, have affected a small entity's decisions concerning IRFA. This more recent data are reflected in subsection 3 of the FRFA, *infra*.

738. TeleTruth also contends that "[a] true IRFA analysis about small business telecom competitors would conclude that the current FCC is in violation of the Telecom Act and all of its provisions" because the Commission purportedly has failed to enforce its local competition rules.[2173] Such an assertion falls outside the scope of this rulemaking proceeding and our analysis herein. Complaints regarding carriers' compliance with the Commission's Rules are properly addressed in other venues. For example, section 208 of the Communications Act specifically permits small businesses and other entities to lodge complaints regarding other carriers' activities, and to seek enforcement of Commission regulations.[2174] Also, to the extent an incumbent LEC's obligations under section 251 are implemented through interconnection agreements, those obligations are enforceable as a matter of contract law through the courts.

739. TeleTruth next argues the RFA requires "an impact study on how [an agency's regulations] will harm small businesses," and that "the FCC has not done anything of the sort for this proceeding."[2175] We disagree: the RFA requires us to provide precisely the information contained in this FRFA, but does not mandate a separate "impact study."[2176] The Commission has therefore satisfied its RFA obligations.

740. In a letter challenging the *UNE Remand Order*, Senator Talent argued that that Order violated section 3(a)(2)(C) of the Small Business Act.[2177] Specifically, Senator Talent noted that the *UNE Remand Order* differentiated between businesses that used fewer than four access lines and those that used four or more lines, in contravention of the Small Business Act's directive that "unless specifically authorized by statute, no Federal department or agency may prescribe a size standard for categorizing a business concern as a small business concern," unless certain procedural requirements are satisfied.[2178] In the present Order, our action does not establish any special small business size standard.

741. TeleTruth and Senator Talent suggest that section 257 of the Act dictates a particular substantive result in this matter. Specifically, TeleTruth claims that this "Triennial

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[2172] *See id.* at 22.

[2173] *See id.* at 37-39, 41.

[2174] 47 U.S.C. § 208.

[2175] TeleTruth Feb. 5, 2003 *Ex Parte* Letter at 4.

[2176] *See* 5 U.S.C. § 604.

[2177] *See* 15 U.S.C. § 632(a)(2)(C).

[2178] *Id.*

Review is mandated in Section [257(c)]," and requires an outcome favorable to entrepreneurs and small businesses.[2179] Senator Talent argued that in limiting the class of elements subject to section 251(c), the *UNE Remand Order* "erected a new barrier to entry" by small business carriers, and consequently violated section 257 of the Communications Act. Section 257, however, did *not* mandate this proceeding and in no way cabins this Commission's exercise of its authority to adopt rules implementing the Act. Section 257 required the Commission to conduct a proceeding designed to identify and eliminate "market entry barriers for entrepreneurs and other small businesses in the provision and ownership of telecommunications services and information services" within 15 months of the enactment of the 1996 Act,[2180] and periodically to review its regulations and report to Congress on any such barriers.[2181] The Commission concluded the requisite proceeding in 1997[2182] and issued its first subsequent section 257 Report to Congress in 2000.[2183] Thus, this proceeding is *not* mandated (or in any way governed) by section 257. Rather, as described above, this Order fulfills the Commission's commitment – set forth in the *UNE Remand Order* – to reevaluate unbundling requirements, and responds to various judicial rulings regarding those requirements.[2184]

742. TeleTruth, the NFIB, and SBA Advocacy caution that this Order may stand in violation of Executive Order 13272.[2185] Setting aside the question of whether a multi-member independent agency such as the FCC must comply with that Executive Order, we note that affected agencies must: (1) comply with the RFA, (2) give SBA Advocacy advanced notice of any proposed rules that might substantially impact small businesses, and (3) give "appropriate consideration to" and provide a written response to "any comments provided by" SBA Advocacy. Here, the Commission did send SBA Advocacy a copy of the published Triennial Review NPRM (which pre-dated the Executive Order).[2186] Moreover, in this FRFA, we fully satisfy our obligations under the RFA. Finally, we address SBA Advocacy's other comments below. Therefore, this proceeding stands in compliance with Executive Order 13272.

[2179] TeleTruth Feb. 5, 2003 *Ex Parte* Letter at 3.

[2180] *See* 47 U.S.C. § 257(a).

[2181] *See id.* § 257(c).

[2182] *See Section 257 Proceeding To Identify and Eliminate Market Entry Barriers For Small Businesses*, GN Docket No. 96-113, Report, 12 FCC Rcd 16802 (1997).

[2183] *See Section 257 Report to Congress, Identifying and Eliminating Market Entry Barriers For Entrepreneurs and Other Small Businesses*, Report, 15 FCC Rcd 15376 (2000).

[2184] *See supra* Parts I, III.

[2185] Executive Order No. 13272, 67 Fed. Reg. 53461 (Aug. 16, 2002); s*ee* TeleTruth Feb. 5, 2003 *Ex Parte* Letter at 6-7; NFIB Feb. 5, 2003 *Ex Parte* Letter at 1; SBA Advocacy Feb. 5, 2003 *Ex Parte* Letter at 2-3.

[2186] *Triennial Review NPRM*, 16 FCC Rcd at 22836, para. 135.

743. SBA Advocacy argues that the Commission's IRFA "did not consider the impact of delisting unbundled network elements . . . on small competitive local exchange carriers."[2187] While SBA Advocacy recommends that we issue a revised IRFA to account more fully for the impact our rules might have on competitive LECs, it recognizes that we might appropriately address any such impact in this FRFA instead.[2188] We have adopted the latter course. We note that we have considered the concerns of competitive LECs throughout this Order, and those considerations are summarized in Part X.A.5, below. Moreover, in Part X.A.3, we attempt to estimate the number of competitive LECs that will be affected by the rules we adopt herein.

744. SBA Advocacy also claims that the proposals contained in the *Triennial Review NPRM* were not sufficiently specific to allow small businesses the opportunity to comment meaningfully.[2189] We disagree. This proceeding has elicited well over one thousand filings, submitted by scores of parties. These parties – which include numerous small businesses – found in the Notice sufficient specificity to permit meaningful comment. SBA Advocacy notes its "particular concern" that the Commission "is considering removing elements from the list" of incumbent LECs' unbundling obligations, whereas the *Triennial Review NPRM* purportedly gave no indication of this eventuality.[2190] But in fact, the *Triennial Review NPRM* clearly explained that the Commission was considering "an unbundling analysis that is more targeted," including approaches "that take into consideration specific services, facilities, and customer and business considerations."[2191] The Commission expressly sought comment "on applying the unbundling analysis to define the network elements" subject to unbundling,[2192] and indicated its intention to "probe whether and to what extent we should adopt a more sophisticated, refined unbundling analysis."[2193] The Commission also specifically stated its intention to reexamine unbundling obligations with respect to loops,[2194] switching,[2195] interoffice transport,[2196] OSS,[2197] call-related signaling,[2198] and call-related databases.[2199] We are thus not persuaded that the Notice

[2187] SBA Advocacy Feb. 5, 2003 *Ex Parte* Letter at 1.

[2188] *Id.* at 1-2.

[2189] *See id.* at 3-4.

[2190] *Id.* at 3.

[2191] *Triennial Review NPRM*, 16 FCC Rcd at 22789, para. 16.

[2192] *Id.*

[2193] *Id.* at 22797-98, para. 34.

[2194] *See id.* at 22803-05, paras. 49, 51-52.

[2195] *See id.* at 22806-09, paras. 56-62.

[2196] *See id.* at 22810-12, paras. 64-66.

[2197] *See id.* at 22813, para. 70.

[2198] *See id.* at 22812, para. 68.

somehow failed to signal the Commission's intent to examine rules that might result in modification of the list of elements (including possible removal of elements) subject to section 251(c)(3)'s unbundling requirements.

3. Description and Estimate of the Number of Small Entities To Which the Actions Taken Will Apply

745. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the rules.[2200] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[2201] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[2202] A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[2203]

746. In this section, we further describe and estimate the number of small entity licensees and regulatees that may be affected by rules adopted in this Order. The most reliable source of information regarding the total numbers of certain common carrier and related providers nationwide, as well as the number of commercial wireless entities, appears to be the data that the Commission published in its *Trends in Telephone Service May 2002* report.[2204] The SBA has developed small business size standards for wireline and wireless small businesses within the three commercial census categories of Wired Telecommunications Carriers,[2205] Paging,[2206] and Cellular and Other Wireless Telecommunications.[2207] Under these categories, a business is small if it has 1,500 or fewer employees. Below, using the above size standards and

(Continued from previous page)

[2199] *See id.* at 22812-13, para. 69.

[2200] 5 U.S.C. §§ 603(b)(3), 604(a)(3).

[2201] *Id*. § 601(6).

[2202] *Id.* § 601(3) (incorporating by reference the definition of "small business concern" set forth in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such terms which are appropriate to the activities of the agency and publishes such definitions(s) in the Federal Register."

[2203] 15 U.S.C. § 632.

[2204] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2205] 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 513310 (changed to 517110 in Oct. 2002).

[2206] *Id.* § 121.201, NAICS code 513321 (changed to 517211 in Oct. 2002).

[2207] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

others, we discuss the total estimated numbers of small businesses that might be affected by our actions.

747. We have included small incumbent LECs in this present RFA analysis. As noted above, a "small business" under the RFA is one that, *inter alia*, meets the pertinent small business size standard (*e.g.*, a wired telecommunications carrier having 1,500 or fewer employees), and "is not dominant in its field of operation."[2208] SBA Advocacy contends that, for RFA purposes, small incumbent LECs are not dominant in their field of operation because any such dominance is not "national" in scope.[2209] We have therefore included small incumbent LECs in this RFA analysis, although we emphasize that this RFA action has no effect on Commission analyses and determinations in other, non-RFA contexts.

748. *Wired Telecommunications Carriers*. The SBA has developed a small business size standard for Wired Telecommunications Carriers, which consists of all such companies having 1,500 or fewer employees.[2210] According to Census Bureau data for 1997, there were 2,225 firms in this category, total, that operated for the entire year.[2211] Of this total, 2,201 firms had employment of 999 or fewer employees, and an additional 24 firms had employment of 1,000 employees or more.[2212] Thus, under this size standard, the great majority of firms can be considered small.

749. *Incumbent LECs*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to incumbent local exchange services. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[2213] According to Commission data, 1,329 carriers reported that they were engaged in the provision of local exchange services.[2214] Of these 1,329 carriers, an estimated 1,024 have 1,500 or fewer

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[2208] 5 U.S.C. § 601(3).

[2209] Letter from Jere W. Glover, Chief Counsel for SBA Advocacy, and Eric E. Menge, Assistant Chief Counsel for Telecommunications, SBA Advocacy, to William E. Kennard, Chairman, FCC, CC Docket Nos. 98-147, 99-68, 97-181 (filed May 27, 1999). The Small Business Act contains a definition of "small business concern," which the RFA incorporates into its own definition of "small business." *See* 15 U.S.C. § 632(a); 5 U.S.C. § 601(3). SBA regulations interpret "small business concern" to include the concept of dominance on a national basis. 13 C.F.R. § 121.102(b).

[2210] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2211] U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)" (1997 Economic Census, Establishment and Firm Size), Table 5, NAICS code 513310 (issued Oct. 2000).

[2212] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

[2213] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2214] *Trends in Telephone Service May 2002 Report* at Table 5.3.

employees and 305 have more than 1,500 employees. Consequently, the Commission estimates that most providers of incumbent local exchange service are small businesses that may be affected by the rules and policies adopted herein.

750. *Competitive LECs*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to providers of competitive exchange services or to competitive access providers or to "Other Local Exchange Carriers," all of which are discrete categories under which TRS data are collected. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[2215] According to Commission data, 532 companies reported that they were engaged in the provision of either competitive access provider services or competitive LEC services.[2216] Of these 532 companies, an estimated 411 have 1,500 or fewer employees and 121 have more than 1,500 employees.[2217] In addition, 55 carriers reported that they were "Other Local Exchange Carriers." Of the 55 "Other Local Exchange Carriers," an estimated 53 have 1,500 or fewer employees and two have more than 1,500 employees.[2218] Consequently, the Commission estimates that most providers of competitive local exchange service, competitive access providers, and "Other Local Exchange Carriers" are small entities that may be affected by the rules and policies adopted herein.

751. *Interexchange Carriers*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to interexchange services. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[2219] According to Commission data, 229 companies reported that their primary telecommunications service activity was the provision of interexchange services.[2220] Of these 229 companies, an estimated 181 have 1,500 or fewer employees and 48 have more than 1,500 employees.[2221] Consequently, the Commission estimates that the majority of interexchange service providers are small entities that may be affected by the rules and policies adopted herein.

752. *Operator Service Providers (OSPs)*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to OSPs. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that

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[2215] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2216] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2217] *Id.*

[2218] *Id.*

[2219] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2220] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2221] *Id.*

size standard, such a business is small if it has 1,500 or fewer employees.[2222] According to Commission data, 22 companies reported that they were engaged in the provision of operator services.[2223] Of these 22 companies, an estimated 20 have 1,500 or fewer employees and two have more than 1,500 employees.[2224] Consequently, the Commission estimates that the great majority of OSPs are small entities that may be affected by the rules and policies adopted herein.

753. *Prepaid Calling Card Providers.* The SBA has developed a size standard for a small business within the category of Telecommunications Resellers. Under that SBA size standard, such a business is small if it has 1,500 or fewer employees.[2225] According to Commission data, 32 companies reported that they were engaged in the provision of prepaid calling cards.[2226] Of these 32 companies, an estimated 31 have 1,500 or fewer employees and one has more than 1,500 employees.[2227] Consequently, the Commission estimates that the great majority of prepaid calling card providers are small entities that may be affected by the rules and policies adopted herein.

754. *Other Toll Carriers.* Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to "Other Toll Carriers." This category includes toll carriers that do not fall within the categories of interexchange carriers, OSPs, prepaid calling card providers, satellite service carriers, or toll resellers. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[2228] According to Commission's data, 42 companies reported that their primary telecommunications service activity was the provision of payphone services.[2229] Of these 42 companies, an estimated 37 have 1,500 or fewer employees and five have more than 1,500 employees.[2230] Consequently, the Commission estimates that most "Other Toll Carriers" are small entities that may be affected by the rules and policies adopted herein.

755. *Wireless Service Providers.* The SBA has developed a small business size standard for wireless firms within the two broad economic census categories of Paging[2231] and

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[2222] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2223] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2224] *Id.*

[2225] 13 C.F.R. § 121.201, NAICS code 513330 (changed to 517310 in Oct. 2002).

[2226] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2227] *Id.*

[2228] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2229] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2230] *Id.*

[2231] 13 C.F.R. § 121.201, NAICS code 513321 (changed to 517211 in Oct. 2002).

Cellular and Other Wireless Telecommunications.[2232] Under both SBA categories, a wireless business is small if it has 1,500 or fewer employees. For the census category of Paging, Census Bureau data for 1997 show that there were 1320 firms in this category, total, that operated for the entire year.[2233] Of this total, 1303 firms had employment of 999 or fewer employees, and an additional 17 firms had employment of 1,000 employees or more.[2234] Thus, under this category and associated small business size standard, the great majority of firms can be considered small. For the census category Cellular and Other Wireless Telecommunications firms, Census Bureau data for 1997 show that there were 977 firms in this category, total, that operated for the entire year.[2235] Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.[2236] Thus, under this second category and size standard, the great majority of firms can, again, be considered small.

756. *Broadband Personal Communications Service.* The broadband Personal Communications Service (PCS) spectrum is divided into six frequency blocks designated A through F, and the Commission has held auctions for each block. The Commission defined "small entity" for Blocks C and F as an entity that has average gross revenues of $40 million or less in the three previous calendar years.[2237] For Block F, an additional classification for "very small business" was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years."[2238] These standards defining "small entity" in the context of broadband PCS auctions have been approved by the SBA.[2239] No small businesses, within the SBA-approved small business size standards bid successfully for licenses in Blocks A and B. There were 90 winning bidders that qualified as small entities in the Block C auctions. A total of 93 small and very small business

[2232] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2233] U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Employment Size of Firms Subject to Federal Income Tax: 1997" (1997 Economic Census, Employment Size of Firms), Table 5, NAICS code 513321 (issued Oct. 2000).

[2234] *Id*. The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

[2235] 1997 Economic Census, Employment Size of Firms, Table 5, NAICS code 513322 (issued Oct. 2000).

[2236] *Id*. The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

[2237] *See Amendment of Parts 20 and 24 of the Commission's Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap*, WT Docket No. 96-59, Report and Order, 11 FCC Rcd 7824 (1996) (*Parts 20 and 24 Amendment Order*); *see also* 47 C.F.R. § 24.720(b).

[2238] *See Parts 20 and 24 Amendment Order*, 11 FCC Rcd 7824.

[2239] *See, e.g.*, *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, PP Docket No. 93-253, Fifth Report and Order, 9 FCC Rcd 5332 (1994).

bidders won approximately 40 percent of the 1,479 licenses for Blocks D, E, and F.[2240] On March 23, 1999, the Commission re-auctioned 347 C, D, E, and F Block licenses. There were 48 small business winning bidders. On January 26, 2001, the Commission completed the auction of 422 C and F Broadband PCS licenses in Auction No. 35. Of the 35 winning bidders in this auction, 29 qualified as "small" or "very small" businesses. Subsequent events, concerning Auction 35, including judicial and agency determinations, resulted in a total of 163 C and F Block licenses being available for grant. In addition, we note that, as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Also, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated.

757. *Narrowband PCS.* To date, two auctions of narrowband PCS licenses have been conducted. For purposes of the two auctions that have already been held, "small businesses" were entities with average gross revenues for the prior three calendar years of $40 million or less. Through these auctions, the Commission has awarded a total of 41 licenses, out of which 11 were obtained by small businesses. To ensure meaningful participation of small business entities in future auctions, the Commission has adopted a two-tiered small business size standard in the *Narrowband PCS Second Report and Order*.[2241] A "small business" is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than $40 million. A "very small business" is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than $15 million. The SBA has approved these small business size standards.[2242] In the future, the Commission will auction 459 licenses to serve Metropolitan Trading Areas (MTAs) and 408 response channel licenses. There is also one megahertz of narrowband PCS spectrum that has been held in reserve and that the Commission has not yet decided to release for licensing. The Commission cannot predict accurately the number of licenses that will be awarded to small entities in future actions. However, four of the 16 winning bidders in the two previous narrowband PCS auctions were small businesses, as that term was defined under the Commission's Rules. The Commission assumes, for purposes of this analysis that a large portion of the remaining narrowband PCS licenses will be awarded to small entities. The Commission also assumes that at least some small businesses will acquire narrowband PCS licenses by means of the Commission's partitioning and disaggregation rules.

[2240] FCC News, *Broadband PCS, D, E and F Block Auction Closes*, No. 71744 (rel. Jan. 14, 1997); *see also Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licenses*, WT Docket No. 97-82, Second Report and Order, 12 FCC Rcd 16436 (1997).

[2241] *Amendment of the Commission's Rules to Establish New Personal Communications Services, Narrowband PCS*, Docket Nos. ET 92-100, PP 93-253, Second Report and Order and Second Further Notice of Proposed Rulemaking, 15 FCC Rcd 10456 (2000).

[2242] *See* Letter from Aida Alvarez, Administrator, SBA, to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC (filed Dec. 2, 1998) (SBA Dec. 2, 1998 *Ex Parte* Letter).

758. *220 MHz Radio Service – Phase I Licensees.* The 220 MHz service has both Phase I and Phase II licenses. Phase I licensing was conducted by lotteries in 1992 and 1993. There are approximately 1,515 such non-nationwide licensees and four nationwide licensees currently authorized to operate in the 220 MHz band. The Commission has not developed a small business size standard for small entities specifically applicable to such incumbent 220 MHz Phase I licensees. To estimate the number of such licensees that are small businesses, we apply the small business size standard under the SBA rules applicable to "Cellular and Other Wireless Telecommunications" companies. This standard provides that such a company is small if it employs no more than 1,500 persons.[2243] According to Census Bureau data for 1997, there were 977 firms in this category, total, that operated for the entire year.[2244] Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.[2245] If this general ratio continues in the context of Phase I 220 MHz licensees, the Commission estimates that nearly all such licensees are small businesses under the SBA's small business size standard.

759. *220 MHz Radio Service – Phase II Licensees.* The 220 MHz service has both Phase I and Phase II licenses. The Phase II 220 MHz service is a new service, and is subject to spectrum auctions. In the *220 MHz Third Report and Order*, we adopted a small business size standard for "small" and "very small" businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[2246] This small business size standard indicates that a "small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $15 million for the preceding three years.[2247] A "very small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues that do not exceed $3 million for the preceding three years. The SBA has approved these small business size standards.[2248] Auctions of Phase II licenses commenced on September 15, 1998, and closed on October 22, 1998.[2249] In the first auction, 908 licenses were auctioned in three different-sized geographic areas: three

[2243] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2244] 1997 Economic Census, Employment Size of Firms, Table 5, NAICS code 513322 (issued Oct. 2000).

[2245] *Id*. The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

[2246] *Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service,* PR Docket No. 89-552, Third Report and Order and Fifth Notice of Proposed Rulemaking, 12 FCC Rcd 10943, 11068-70, at paras. 291-95 (1997) (*220 MHz Third Report and Order*).

[2247] *Id.* at 11068-69, para. 291.

[2248] *See* Letter from Aida Alvarez, Administrator, SBA, to D. Phythyon, Chief, Wireless Telecommunications Bureau, FCC (filed Jan. 6, 1998) (SBA Jan. 6, 1998 *Ex Parte* Letter).

[2249] *See generally Phase II 220 MHz Service Auction Closes, Winning Bidders in the Auction of 908 Phase II 220 MHz Service Licenses Down Payments Due November 6, 1998, FCC Form 601s Due November 6, 1998, Ten-Day Petition to Deny Period*, Report No. AUC-18-F, 14 FCC Rcd 605 (1998).

nationwide licenses, 30 Regional Economic Area Group (EAG) Licenses, and 875 Economic Area (EA) Licenses. Of the 908 licenses auctioned, 693 were sold. Thirty-nine small businesses won licenses in the first 220 MHz auction. The second auction included 225 licenses: 216 EA licenses and 9 EAG licenses. Fourteen companies claiming small business status won 158 licenses.[2250]

760. *800 MHz and 900 MHz Specialized Mobile Radio Licenses.* The Commission awards "small entity" and "very small entity" bidding credits in auctions for Specialized Mobile Radio (SMR) geographic area licenses in the 800 MHz and 900 MHz bands to firms that had revenues of no more than $15 million in each of the three previous calendar years, or that had revenues of no more than $3 million in each of the previous calendar years, respectively.[2251] These bidding credits apply to SMR providers in the 800 MHz and 900 MHz bands that either hold geographic area licenses or have obtained extended implementation authorizations. The Commission does not know how many firms provide 800 MHz or 900 MHz geographic area SMR service pursuant to extended implementation authorizations, nor how many of these providers have annual revenues of no more than $15 million. One firm has over $15 million in revenues. The Commission assumes, for purposes here, that all of the remaining existing extended implementation authorizations are held by small entities, as that term is defined by the Small Business Act. The Commission has held auctions for geographic area licenses in the 800 MHz and 900 MHz SMR bands. There were 60 winning bidders that qualified as small or very small entities in the 900 MHz SMR auctions. Of the 1,020 licenses won in the 900 MHz auction, bidders qualifying as small or very small entities won 263 licenses. In the 800 MHz auction, 38 of the 524 licenses won were won by small and very small entities. Consequently, the Commission estimates that there are 301 or fewer small entity SMR licensees in the 800 MHz and 900 MHz bands that may be affected by the rules and policies adopted herein.

761. *Common Carrier Paging.* In the Paging Third Report and Order, we developed a small business size standard for "small businesses" and "very small businesses" for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[2252] A "small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $15 million for the preceding three years. Additionally, a "very small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the preceding three years. An auction of Metropolitan Economic Area licenses commenced on February 24, 2000, and closed on March 2, 2000.[2253] Of the 985 licenses auctioned, 440 were sold. Fifty-seven companies claiming small business status won. At present, there are approximately 24,000

[2250] *Phase II 220 MHz Service Spectrum Auction Closes*, Report No. AUC-24-E, 14 FCC Rcd 11218 (1999).

[2251] 47 C.F.R. § 90.814(b)(1).

[2252] *220 MHz Third Report and Order*, 12 FCC Rcd at 11068-70, paras. 291-95.

[2253] *Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems*, WT Docket No. 96-18, Memorandum Opinion and Order on Reconsideration and Third Report and Order, 14 FCC Rcd 10030, 10085, para. 98 (1999).

Private-Paging site-specific licenses and 74,000 Common Carrier Paging licenses. According to the *Trends in Telephone Service May 2002 Report*, 471 carriers reported that they were engaged in the provision of either paging and messaging services or other mobile services.[2254] Of those, the Commission estimates that 450 are small, under the SBA business size standard specifying that firms are small if they have 1,500 or fewer employees.[2255]

762. *700 MHz Guard Band Licensees.* In the 700 MHz Guard Band Order, we adopted a small business size standard for "small businesses" and "very small businesses" for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[2256] A "small business" as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $15 million for the preceding three years. Additionally, a "very small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the preceding three years. An auction of 52 Major Economic Area (MEA) licenses commenced on September 6, 2000, and closed on September 21, 2000.[2257] Of the 104 licenses auctioned, 96 licenses were sold to nine bidders. Five of these bidders were small businesses that won a total of 26 licenses. A second auction of 700 MHz Guard Band licenses commenced on February 13, 2001 and closed on February 21, 2001. All eight of the licenses auctioned were sold to three bidders. One of these bidders was a small business that won a total of two licenses.[2258]

763. *Rural Radiotelephone Service.* The Commission has not adopted a size standard for small businesses specific to the Rural Radiotelephone Service.[2259] A significant subset of the Rural Radiotelephone Service is the Basic Exchange Telephone Radio System (BETRS).[2260] The Commission uses the SBA's small business size standard applicable to "Cellular and Other Wireless Telecommunications," *i.e.*, an entity employing no more than 1,500 persons.[2261] There are approximately 1,000 licensees in the Rural Radiotelephone Service, and the Commission estimates that there are 1,000 or fewer small entity licensees in the Rural Radiotelephone Service that may be affected by the rules and policies adopted herein.

[2254] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2255] *Id*. The SBA size standard is that of Paging, 13 C.F.R. § 121.201, NAICS code 517211.

[2256] *See Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules*, WT Docket No. 99-168, Second Report and Order, 15 FCC Rcd 5299 (2000).

[2257] *See generally 220 MHz Service Auction Closes*, Report No. WT 98-36 (rel Oct. 23, 1998).

[2258] *700 MHz Guard Band Auction Closes*, Report No. AUC-38-F, 16 FCC Rcd 4590 (2001).

[2259] The service is defined in section 22.99 of the Commission's Rules, 47 C.F.R. § 22.99.

[2260] BETRS is defined in sections 22.757 and 22.759 of the Commission's Rules, 47 C.F.R. §§ 22.757 and 22.759.

[2261] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

764. *Air-Ground Radiotelephone Service.* The Commission has not adopted a small business size standard specific to the Air-Ground Radiotelephone Service.[2262] We will use SBA's small business size standard applicable to "Cellular and Other Wireless Telecommunications," *i.e.*, an entity employing no more than 1,500 persons.[2263] There are approximately 100 licensees in the Air-Ground Radiotelephone Service, and we estimate that almost all of them qualify as small under the SBA small business size standard.

765. *Aviation and Marine Radio Services.* Small businesses in the aviation and marine radio services use a very high frequency (VHF) marine or aircraft radio and, as appropriate, an emergency position-indicating radio beacon (and/or radar) or an emergency locator transmitter. The Commission has not developed a small business size standard specifically applicable to these small businesses. For purposes of this analysis, the Commission uses the SBA small business size standard for the category "Cellular and Other Telecommunications," which is 1,500 or fewer employees.[2264] Most applicants for recreational licenses are individuals. Approximately 581,000 ship station licensees and 131,000 aircraft station licensees operate domestically and are not subject to the radio carriage requirements of any statute or treaty. For purposes of our evaluations in this analysis, we estimate that there are up to approximately 712,000 licensees that are small businesses (or individuals) under the SBA standard. In addition, between December 3, 1998 and December 14, 1998, the Commission held an auction of 42 VHF Public Coast licenses in the 157.1875-157.4500 MHz (ship transmit) and 161.775-162.0125 MHz (coast transmit) bands. For purposes of the auction, the Commission defined a "small" business as an entity that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed $15 million dollars. In addition, a "very small" business is one that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed $3 million dollars.[2265] There are approximately 10,672 licensees in the Marine Coast Service, and the Commission estimates that almost all of them qualify as "small" businesses under the above special small business size standards.

766. *Fixed Microwave Services.* Fixed microwave services include common carrier,[2266] private operational-fixed,[2267] and broadcast auxiliary radio services.[2268] At present, there are

[2262] The service is defined in section 22.99 of the Commission's Rules, 47 C.F.R. § 22.99.

[2263] 13 C.F.R. § 121.201, NAICS codes 513322 (changed to 517212 in Oct. 2002).

[2264] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2265] *Amendment of the Commission's Rules Concerning Maritime Communications*, PR Docket No. 92-257, Third Report and Order and Memorandum Opinion and Order, 13 FCC Rcd 19853 (1998).

[2266] *See* 47 C.F.R. § 101 *et seq*. (formerly Part 21 of the Commission's Rules) for common carrier fixed microwave services (except MDS).

[2267] Persons eligible under Parts 80 and 90 of the Commission's Rules can use Private Operational-Fixed Microwave services. *See* 47 C.F.R. Parts 80 and 90. Stations in this service are called operational-fixed to distinguish them from common carrier and public fixed stations. Only the licensee may use the operational-fixed station, and only for communications related to the licensee's commercial, industrial, or safety operations.

approximately 22,015 common carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not created a size standard for a small business specifically with respect to fixed microwave services. For purposes of this analysis, the Commission uses the SBA small business size standard for the category "Cellular and Other Telecommunications," which is 1,500 or fewer employees.[2269] The Commission does not have data specifying the number of these licensees that have more than 1,500 employees, and thus are unable at this time to estimate with greater precision the number of fixed microwave service licensees that would qualify as small business concerns under the SBA's small business size standard. Consequently, the Commission estimates that there are up to 22,015 common carrier fixed licensees and up to 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services that may be small and may be affected by the rules and policies adopted herein. We noted, however, that the common carrier microwave fixed licensee category includes some large entities.

767. *Offshore Radiotelephone Service.* This service operates on several UHF television broadcast channels that are not used for television broadcasting in the coastal areas of states bordering the Gulf of Mexico.[2270] There are presently approximately 55 licensees in this service. We are unable to estimate at this time the number of licensees that would qualify as small under the SBA's small business size standard for "Cellular and Other Wireless Telecommunications" services.[2271] Under that SBA small business size standard, a business is small if it has 1,500 or fewer employees.[2272]

768. *Wireless Communications Services (WCS).* This service can be used for fixed, mobile, radiolocation, and digital audio broadcasting satellite uses. The Commission established small business size standards for the WCS auction. A "small business" is an entity with average gross revenues of $40 million for each of the three preceding years, and a "very small business" is an entity with average gross revenues of $15 million for each of the three preceding years. The SBA has approved these small business size standards.[2273] The Commission auctioned geographic area licenses in the WCS service. In the auction, there were seven winning bidders that qualified as "very small business" entities, and one that qualified as a "small business"

(Continued from previous page)

[2268] Auxiliary Microwave Service is governed by Part 74 of the Commission's Rules. *See* 47 C.F.R. Part 74. This service is available to licensees of broadcast stations and to broadcast and cable network entities. Broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile television pickups, which relay signals from a remote location back to the studio.

[2269] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2270] This service is governed by Subpart I of Part 22 of the Commission's Rules. *See* 47 C.F.R. §§ 22.1001-22.1037.

[2271] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2272] *Id*.

[2273] *See* SBA Dec. 2, 1998 *Ex Parte* Letter.

entity. We conclude that the number of geographic area WCS licensees affected by this analysis includes these eight entities.

769. *39 GHz Service.* The Commission created a special small business size standard for 39 GHz licenses – an entity that has average gross revenues of $40 million or less in the three previous calendar years.[2274] An additional size standard for "very small business" is: an entity that, together with affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[2275] The SBA has approved these small business size standards.[2276] The auction of the 2,173 39 GHz licenses began on April 12, 2000 and closed on May 8, 2000. The 18 bidders who claimed small business status won 849 licenses. Consequently, the Commission estimates that 18 or fewer 39 GHz licensees are small entities that may be affected by the rules and polices adopted herein.

770. *Multipoint Distribution Service (MDS), Multichannel Multipoint Distribution Service (MMDS), and Instructional Television Fixed Service (ITFS).* MMDS systems, often referred to as "wireless cable," transmit video programming to subscribers using the microwave frequencies of the MDS and ITFS.[2277] In connection with the 1996 MDS auction, the Commission established a small business size standard as an entity that had annual average gross revenues of less than $40 million in the previous three calendar years.[2278] The MDS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs). Of the 67 auction winners, 61 met the definition of a small business. MDS also includes licensees of stations authorized prior to the auction. In addition, the SBA has developed a small business size standard for Cable and Other Program Distribution, which includes all such companies generating $12.5 million or less in annual receipts.[2279] According to Census Bureau data for 1997, there were a total of 1,311 firms in this category, total, that had operated for the entire year.[2280] Of this total, 1,180 firms had annual receipts of under $10 million and an additional 52 firms had receipts of $10 million or more but less than $25 million. Consequently, we estimate that the majority of providers in this service category are small businesses that may be affected by the rules and policies adopted herein. This SBA small business size standard also

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[2274] *See Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands*, ET Docket No. 95-183, Report and Order and Second Notice of Proposed Rulemaking, 12 FCC Rcd 18600 (1997).

[2275] *Id.*

[2276] SBA Feb. 4, 1998 *Ex Parte* Letter.

[2277] *Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, Docket Nos. MM 94-131, PP 93-253, Report and Order, 10 FCC Rcd 9589, 9593, para. 7 (1995).

[2278] 47 C.F.R. § 21.961(b)(1).

[2279] 13 C.F.R. § 121.201, NAICS code 513220 (changed to 517510 in Oct. 2002).

[2280] 1997 Economic Census, Establishment and Firm Size, Table 4, NAICS code 513220 (issued Oct. 2000).

appears applicable to ITFS. There are presently 2,032 ITFS licensees. All but 100 of these licenses are held by educational institutions. Educational institutions are included in this analysis as small entities.[2281] Thus, we tentatively conclude that at least 1,932 licensees are small businesses.

771. *Local Multipoint Distribution Service.* Local Multipoint Distribution Service (LMDS) is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications.[2282] The auction of the 1,030 LMDS licenses began on February 18, 1998 and closed on March 25, 1998. The Commission established a small business size standard for LMDS licenses as an entity that has average gross revenues of less than $40 million in the three previous calendar years.[2283] An additional small business size standard for "very small business" was added as an entity that, together with its affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[2284] The SBA has approved these small business size standards in the context of LMDS auctions.[2285] There were 93 winning bidders that qualified as small entities in the LMDS auctions. A total of 93 small and very small business bidders won approximately 277 A Block licenses and 387 B Block licenses. On March 27, 1999, the Commission re-auctioned 161 licenses; there were 40 winning bidders. Based on this information, we conclude that the number of small LMDS licenses consists of the 93 winning bidders in the first auction and the 40 winning bidders in the re-auction, for a total of 133 small entity LMDS providers.

772. *218-219 MHz Service.* The first auction of 218-219 MHz spectrum resulted in 170 entities winning licenses for 594 Metropolitan Statistical Area (MSA) licenses. Of the 594 licenses, 557 were won by entities qualifying as a small business. For that auction, the small business size standard was an entity that, together with its affiliates, has no more than a $6 million net worth and, after federal income taxes (excluding any carry-over losses), has no more than $2 million in annual profits each year for the previous two years.[2286] In the 218-219 MHz Report and Order and Memorandum Opinion and Order, we established a small business size standard for a "small business" as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and their affiliates, has average annual gross revenues

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[2281] In addition, the term "small entity" within SBREFA applies to small organizations (nonprofits) and to small governmental jurisdictions (cities, counties, towns, townships, villages, school districts, and special districts with populations of less than 50,000). 5 U.S.C. §§ 601(4)-(6). We do not collect annual revenue data on ITFS licensees.

[2282] *See Local Multipoint Distribution Service*, Second Report and Order, CC Docket No. 92-297, 12 FCC Rcd 12545 (1997).

[2283] *Id.*

[2284] *Id.*

[2285] *See* SBA Jan. 6, 1998 *Ex Parte* Letter.

[2286] *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, PP Docket No. 93-253, Fourth Report and Order, 9 FCC Rcd 2330 (1994).

not to exceed $15 million for the preceding three years.[2287] A "very small business" is defined as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and its affiliates, has average annual gross revenues not to exceed $3 million for the preceding three years.[2288] We cannot estimate, however, the number of licenses that will be won by entities qualifying as small or very small businesses under our rules in future auctions of 218-219 MHz spectrum.

773. *24 GHz – Incumbent Licensees.* This analysis may affect incumbent licensees who were relocated to the 24 GHz band from the 18 GHz band, and applicants who wish to provide services in the 24 GHz band. The applicable SBA small business size standard is that of "Cellular and Other Wireless Telecommunications" companies. This category provides that such a company is small if it employs no more than 1,500 persons.[2289] According to Census Bureau data for 1997, there were 977 firms in this category, total, that operated for the entire year.[2290] Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.[2291] Thus, under this size standard, the great majority of firms can be considered small. These broader census data notwithstanding, we believe that there are only two licensees in the 24 GHz band that were relocated from the 18 GHz band, Teligent and TRW, Inc.[2292] It is our understanding that Teligent and its related companies have less than 1,500 employees, though this may change in the future. TRW is not a small entity. Thus, only one incumbent licensee in the 24 GHz band is a small business entity.

774. *24 GHz – Future Licensees.* With respect to new applicants in the 24 GHz band, the small business size standard for "small business" is an entity that, together with controlling interests and affiliates, has average annual gross revenues for the three preceding years not in excess of $15 million.[2293] "Very small business" in the 24 GHz band is an entity that, together with controlling interests and affiliates, has average gross revenues not exceeding $3 million for

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[2287] *Amendment of Part 95 of the Commission's Rules to Provide Regulatory Flexibility in the 218-219 MHz Service*, WT Docket No. 98-169, Report and Order and Memorandum Opinion and Order, 15 FCC Rcd 1497 (1999).

[2288] *Id*.

[2289] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2290] 1997 Economic Census, Employment Size of Firms, Table 5, NAICS code 513322 (issued Oct. 2000).

[2291] *Id*. The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

[2292] Teligent acquired the DEMS licenses of FirstMark, the only licensee other than TRW in the 24 GHz band whose license has been modified to require relocation to the 24 GHz band.

[2293] *Amendments to Parts 1,2, 87 and 101 of the Commission's Rules to License Fixed Services at 24 GHz*, WT Docket No. 99-327, Report and Order, 15 FCC Rcd 16934, 16967 para. 77 (2000) (*Parts 1, 2; 87 and 101 Amendment Order*); *see also* 47 C.F.R. § 101.538(a)(2).

the preceding three years.[2294] The SBA has approved these small business size standards.[2295] These size standards will apply to the future auction, if held.

775. *Internet Service Providers.* While internet service providers (ISPs) are only indirectly affected by our present actions, and ISPs are therefore not formally included within this present FRFA, we have addressed them informally to create a fuller record and to recognize their participation in this proceeding. The SBA has developed a small business size standard for Online Information Services, which consists of all such companies having $21 million or less in annual receipts.[2296] According to Census Bureau data for 1997, there were 2,751 firms in this category, total, that operated for the entire year.[2297] Of this total, 2,659 firms had annual receipts of $9,999,999 or less, and an additional 67 had receipts of $10 million to $24,999,999.[2298] Thus, under this size standard, the great majority of firms can be considered small.

4. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

776. Pursuant to sections 251(c) and (d) of the Act, incumbent LECs, including those that qualify as small entities, are required to provide nondiscriminatory access to UNEs.[2299] The only exception to this rule applies to qualifying rural carriers that have gone through the process of obtaining an exemption, suspension, or modification pursuant to section 251(f) of the Act. This Order represents, in large part, a fresh examination of the issues presented in implementing the unbundling requirements of section 251, based on comments from interested parties responding to the *Triennial Review NPRM*. This Order also interprets the necessary and impair standards of section 251(d)(2) in a manner that satisfies the D.C. Circuit's directives that (1) the Commission eschew broad national standards in favor of more granular analysis,[2300] and that, (2) in determining whether a carrier is "impaired" by diminished access to a given element, the Commission distinguish between "cost disparities that are universal as between new entrants and

[2294] *Parts 1, 2; 87 and 101 Amendment Order*, 15 FCC Rcd at 16967, para. 77; *see also* 47 C.F.R. § 101.538(a)(1).

[2295] *See* Letter from Gary M. Jackson, Assistant Administrator, SBA, to Margaret W. Wiener, Deputy Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC (filed July 28, 2000) (SBA July 28, 2000 *Ex Parte* Letter).

[2296] 13 C.F.R. § 121.201, NAICS code 514191 (changed to 518111 in Oct. 2002).

[2297] U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Receipts Size of Firms Subject to Federal Income Tax: 1997" (1997 Economic Census, Receipts Size of Firms), Table 4, NAICS code 514191 (issued Oct. 2000).

[2298] *Id.*

[2299] 47 U.S.C. § 251(c), (d).

[2300] *USTA*, 290 F.3d at 422.

incumbents in *any* industry" and disparities resulting specifically from the conditions of natural monopoly that the Act is designed to redress.[2301]

777. In this Order, we determine that requesting carriers (1) are impaired without access to local circuit switching in providing service to mass market customers using DS0 capacity loops;[2302] (2) are presumed not impaired without access to unbundled local circuit switching for the enterprise market;[2303] (3) are not impaired without access to packet switching, including routers and DSLAMs;[2304] (4) are not impaired without access to incumbent LECs' signaling systems except where they are also impaired without access to the incumbent LEC's unbundled circuit switching;[2305] (5) are impaired without unbundled access to the incumbent LEC's 911 and e911 databases;[2306] (6) are not impaired without access to the incumbent LEC's other call-related databases if they deploy their own switches, but otherwise are impaired;[2307] (7) are impaired without access to incumbent LECs' OSS;[2308] (8) are impaired without access to copper loop or subloop facilities (and must condition copper loops for provision of advanced services), but are not impaired without access to line-sharing (subject to a three-year transition) or hybrid loops;[2309] (9) are not impaired without access to new build/greenfield fiber-to-the-home (FTTH) loops for broadband or narrowband services or overbuild/brownfield FTTH loops for broadband services;[2310] (10) are not impaired without unbundled access to OCn capacity loop facilities, but are impaired, subject to certain triggers, without access to dark fiber loops, DS1 loops, and DS3 loops;[2311] (11) are impaired without access to unbundled subloops associated with accessing customer premises wiring at multiunit premises and are also impaired without unbundled access to the incumbent LEC Inside Wire Subloops and NIDs, regardless of loop type;[2312] (12) are not impaired without unbundled access to OCn transport facilities, but are impaired, subject to certain triggers, without access to dark fiber transport facilities, DS1

[2301] *Id.* at 426.

[2302] *See supra* Part VI.D.6.

[2303] State commissions may rebut this finding as specified above. *See supra* Part VI.D.1.

[2304] *See supra* Part VI.A.2.

[2305] *See supra* Part VI.A.3.

[2306] *See supra* Part VI.A.4.

[2307] *See id.*

[2308] *See supra* Part VI.A.5.

[2309] Incumbent LECs also may not retire copper loops without state approval. *See supra* Part VI.B.1. The Commission reaffirms incumbent LEC line-splitting obligations. *See supra* Part VI.B.1.

[2310] *See supra* Part VI.B.2.

[2311] *See supra* Part VI.B.3.

[2312] *See supra* Parts VI.B.2, VI.B.3.

transport facilities, and DS3 transport facilities;[2313] and (13) are impaired without access to unbundled shared transport only to the extent they are impaired without access to local circuit switching.[2314] The Order also affirms that incumbent LECs are obligated to provide access to UNE combinations.[2315]

778. In this Order, we adopt rules to implement a congressionally-mandated scheme, embodied in Section 251 of the Act, that imposes upon incumbent LECs an obligation to provide unbundled access to certain network elements. This Order articulates a new impairment standard to govern which network elements incumbent LECs must unbundle for competitors in accordance with the Act. While this Order imposes no general obligations on competitive LECs, the Order does require competitive LECs to satisfy certain reporting requirements in order to obtain as UNEs certain high-capacity network elements from incumbent LECs. We have attempted to keep the obligations imposed by this Order to the minimum necessary to implement the requirements of the Act.

779. In addition, this Order outlines procedures whereby states may conduct proceedings to determine whether certain network elements satisfy our impairment standard according to specific guidelines and triggers, as outlined in the Order. While this Order does not specifically impose any obligations on carriers in this regard, records regarding facility use may be necessary for these state proceedings.

780. The various compliance requirements contained in this Order will require the use of engineering, technical, operational, accounting, billing, and legal skills. The carriers that are affected by these requirements already possess these skills. This Order contains new or modified information collections, which are subject to Office of Management and Budget review pursuant to the Paperwork Reduction Act of 1995.[2316]

5. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

781. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small

[2313] *See supra* Part VI.B.3.

[2314] *See supra* Part VI.B.4.

[2315] *See supra* Part VI.B.6.

[2316] Pub. L. No. 104-13, 109 Stat. 163 (codified at 44 U.S.C. § 3507).

entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[2317]

782. In this Order, we adopt rules regarding the unbundling of network elements. We have modified our impairment analysis to find that a requesting carrier is impaired when lack of access to a facility in the incumbent LEC's network poses barriers that are likely to make entry into the market uneconomic.[2318] These can include both operational and economic barriers, such as scale economies, sunk costs, first mover advantages, absolute cost advantages, and barriers within the control of the incumbent LEC. In adopting this interpretation, we considered a variety of factors relating to the size of regulated entities and the customers they serve.[2319] We considered a number of barriers to competitive entry, including those faced by small competitors, as well as the importance of scale economies as they relate to small entities.[2320] Finally, we considered and rejected a number of suggested approaches to impairment.[2321]

783. In applying our impairment analysis to specific network elements, we adopt a more granular approach, including the considerations of customer class, geography, and service. We found that conducting a more granular analysis permits us to distinguish, with more particularity, those situations for which there is impairment from those for which there is none. We also found that an even more granular analysis – loop by loop, for example – is neither administratively feasible nor required by the courts.[2322] We considered the differing needs of three classes of telecommunications customers: mass market customers (*i.e.*, residential customers and sometimes very small business customers), small and medium enterprise customers, and large enterprise customers.[2323] Mass market customers typically generate lower revenue and tighter profit margins than the other classes and therefore require service providers to minimize costs. Small and medium business customers typically are willing to pay higher prices but are more sensitive to reliability and quality of service. Large enterprise customers tend to demand extensive and sophisticated service packages, and reliability and quality of service are essential to these customers.

784. In addition, because requiring unbundling in the absence of impairment imposes unnecessary costs – including for small or rural incumbent LECs – we considered whether impairment varies geographically throughout the country. We make unbundling decisions on a

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[2317] 5 U.S.C. § 603(c).

[2318] *See supra* Part V.B.

[2319] *See id*.

[2320] *See id*.

[2321] These include, for example, the essential facilities doctrine, an antitrust analysis, a market power analysis, and the approach to impairment the Commission took in the *UNE Remand Order*. *See supra* Part V.B.

[2322] *See supra* Part V.B.

[2323] *Id*.

national scale where the record permits us to, but delegate some determining role to the states where it appears that impairment might exist in some regions of the country but not others.[2324] In this regard, we note that Congress provided a mechanism – in section 251(f) of the Act – to exempt small and rural incumbent LECs from several of the Act's obligations.[2325] For example, unbundling rules shall not apply to a rural telephone company until it receives a bona fide request for interconnection and until the state commission determines that the request is technically feasible, not unduly economically burdensome, and consistent with section 254.[2326] Or, a LEC with fewer than two percent of the nation's subscriber lines may obtain relief from unbundling if the state commission decides, among other things, that relief is necessary to avoid imposing a economically burdensome requirement or other significant adverse economic impact.[2327]

785. Through our granular impairment analysis, we have considered the resources and needs of various carriers, including small businesses, and have examined the state of the marketplace to determine whether it was economically feasible for competitors to self-provision network elements or obtain them from competitive sources other than incumbent LECs.[2328] We believe this approach strikes the appropriate balance between the needs of competitors – including small competitors – to access certain network elements, against the burdens unbundling imposes upon incumbent LECs – including small incumbents – and yields a more accurate picture of the state of competition for each of the varied network elements composing the local telephone network. For those network elements for which carriers may be impaired only in certain geographic markets, such as certain high-capacity loops and transport, we adopt an approach that permits localized determination – with a role for the states – as to where and whether impairment exists.[2329] In this way, we have sought to take a more specific view of the needs of differently situated competitors.

786. We also have established service eligibility requirements for UNEs which are designed to ensure that carriers use UNEs primarily to provide local services in competition with incumbent LECs, "while avoiding burdensome administrative rules that serve as a drag on competitive entry."[2330] While we recognize that regulatory requirements may disproportionately impact smaller entities, we have adopted the least burdensome of several available alternatives in

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[2324] *Id*.

[2325] *See* 47 U.S.C. § 251(f).

[2326] *See id.* § 251(f)(1).

[2327] *See id.* § 251(f)(2).

[2328] *See, e.g.*, *supra* Part VI.B.3. (Dedicated Interoffice Transmission Facilities).

[2329] *See, e.g.*, *supra* Parts V.E. (Role of the States), VI.B.3. (Dedicated Interoffice Transmission Facilities).

[2330] *See, e.g.*, *supra* Parts V.B.2. (Granularity of the Impairment Analysis), VI.B.6 (Service Eligibility to Access UNEs).

requiring competitors to satisfy certain service eligibility criteria.[2331] For example, rather than requiring carriers to certify to be the sole provider of local service in order to access certain elements (*e.g.*, high-capacity loops and transport) – an approach that might require frequent and costly assurance from a carrier's customers – we permit carriers to certify that they are the primary providers of local service.[2332] In this regard, we find that being certified as a competitive LEC is probative of providing qualifying service.[2333] We also adopt collocation and local interconnection requirements as less burdensome ways of assuring service eligibility.[2334] By contrast, we have rejected a number of suggested approaches as unnecessarily burdensome, such as measuring minutes or traffic percentages, separately measuring voice and data use, or permitting UNEs only where a competitive carrier uses certain types of switches.[2335] We find that our adopted indicia of service eligibility serve as adequate and less burdensome assurance that a carrier is using UNEs in a manner consistent with the local competition goals of the Act.[2336]

6. Report to Congress

787. The Commission will send a copy of the Order, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.[2337] In addition, the Commission will send a copy of the Order, including the FRFA, to the Chief Counsel for SBA Advocacy. The Order and FRFA, or summaries thereof, will also be published in the Federal Register.[2338]

B. Initial Regulatory Flexibility Analysis

788. As required by the RFA,[2339] the Commission has prepared this IRFA of possible significant economic impact on a substantial number of small entities by the policies and rules proposed in this FNPRM. Written public comments are sought on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the FNPRM, provided below in Part X.C. The Commission will send a copy of the FNPRM,

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[2331] *Id.*

[2332] *See, e.g.*, *supra* Part VI.B.6. (Service Eligibility to Access UNEs).

[2333] *Id.*

[2334] *Id.*

[2335] *Id.*

[2336] *Id.*

[2337] *See* 5 U.S.C. § 801(a)(1).

[2338] *See* 5 U.S.C. § 604(b).

[2339] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the SBREFA, Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

including this IRFA, to the Chief Counsel for SBA Advocacy.[2340] In addition, the FNPRM and IRFA (or summaries thereof) will be published in the Federal Register.[2341]

1. Need for, and Objectives of, the Proposed Rules

789. We initiate the FNPRM portion of this proceeding to ensure that market-based incentives exist for incumbent and competitive LECs to negotiate innovative commercial interconnection arrangements. The current pick-and-choose rules implementing section 252(i) may discourage give-and-take negotiation because incumbent LECs may be reluctant to make significant concessions (in exchange for negotiated benefit) if those concessions become automatically available – without any tradeoff – to every potential market entrant. We therefore seek comment on whether alternate approaches to implementing section 252(i), such as requiring third parties to opt into entire agreements, would promote more innovative and flexible arrangements between parties. Any changes to the current pick-and-choose rule, however, may raise concerns as to whether there is the potential for parties to interconnection agreements to include "poison pill" language that would deter third parties from opting into those agreements under section 252(i). This FNPRM proposes an approach that would eliminate the current pick-and-choose regime for incumbent LECs wherever the incumbent LEC has filed and received state approval of a statement of generally available terms and conditions (SGAT), and this FNPRM seeks to build a record from which to judge the wisdom of this approach.

2. Legal Basis

790. The legal basis for any action that may be taken pursuant to the FNPRM is contained in Sections 1, 3, 4, 201-205, 251, 256, 271, 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, 252, 256, 271, 303(r).

3. Description and Estimate of the Number of Small Entities To Which the Proposed Rules Would Apply

791. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the rules.[2342] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[2343] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[2344] A

[2340] *See* 5 U.S.C. § 603(a).

[2341] *Id.*

[2342] 5 U.S.C. §§ 603(b)(3), 604(a)(3).

[2343] *Id*. § 601(6).

[2344] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an (continued….)

small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.[2345]

792. In this section, we further describe and estimate the number of small entity licensees and regulatees that may be affected by rules proposed in this FNPRM. The most reliable source of information regarding the total numbers of certain common carrier and related providers nationwide, as well as the number of commercial wireless entities, appears to be the data that the Commission publishes in its *Trends in Telephone Service* report.[2346] The SBA has developed small business size standards for wireline and wireless small businesses within the three commercial census categories of Wired Telecommunications Carriers,[2347] Paging,[2348] and Cellular and Other Wireless Telecommunications.[2349] Under these categories, a business is small if it has 1,500 or fewer employees. Below, using the above size standards and others, we discuss the total estimated numbers of small businesses that might be affected by our actions.

793. We have included small incumbent LECs in this present RFA analysis. As noted above, a "small business" under the RFA is one that, *inter alia*, meets the pertinent small business size standard (*e.g.*, a wired telecommunications carrier having 1,500 or fewer employees), and "is not dominant in its field of operation."[2350] SBA Advocacy contends that, for RFA purposes, small incumbent LECs are not dominant in their field of operation because any such dominance is not "national" in scope.[2351] We have therefore included small incumbent LECs in this RFA analysis, although we emphasize that this RFA action has no effect on Commission analyses and determinations in other, non-RFA contexts.

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agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such terms which are appropriate to the activities of the agency and publishes such definitions(s) in the Federal Register."

[2345] 15 U.S.C. § 632.

[2346] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2347] 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 513310 (changed to 517110 in Oct. 2002).

[2348] 13 C.F.R. § 121.201, NAICS code 513321 (changed to 517211 in Oct. 2002).

[2349] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2350] 5 U.S.C. § 601(3).

[2351] Letter from Jere W. Glover, Chief Counsel for SBA Advocacy, and Eric E. Menge, Assistant Chief Counsel for Telecommunications, SBA Advocacy, to William E. Kennard, Chairman, FCC, CC Docket Nos. 98-147, 99-68, 97-181 (filed May 27, 1999). The Small Business Act contains a definition of "small business concern," which the RFA incorporates into its own definition of "small business." *See* 15 U.S.C. § 632(a); 5 U.S.C. § 601(3). SBA regulations interpret "small business concern" to include the concept of dominance on a national basis. 13 C.F.R. § 121.102(b).

794. *Wired Telecommunications Carriers*. The SBA has developed a small business size standard for Wired Telecommunications Carriers, which consists of all such companies having 1,500 or fewer employees.[2352] According to Census Bureau data for 1997, there were 2,225 firms in this category, total, that operated for the entire year.[2353] Of this total, 2,201 firms had employment of 999 or fewer employees, and an additional 24 firms had employment of 1,000 employees or more.[2354] Thus, under this size standard, the great majority of firms can be considered small.

795. *Incumbent LECs*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to incumbent local exchange services. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[2355] According to Commission data, 1,329 carriers reported that they were engaged in the provision of local exchange services.[2356] Of these 1,329 carriers, an estimated 1,024 have 1,500 or fewer employees and 305 have more than 1,500 employees. Consequently, the Commission estimates that most providers of incumbent local exchange service are small businesses that may be affected by the rules and policies adopted herein.

796. *Competitive LECs*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to providers of competitive exchange services or to competitive access providers or to "Other Local Exchange Carriers," all of which are discrete categories under which TRS data are collected. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[2357] According to Commission data, 532 companies reported that they were engaged in the provision of either competitive access provider services or competitive LEC services.[2358] Of these 532 companies, an estimated 411 have 1,500 or fewer employees and 121 have more than 1,500 employees.[2359] In addition, 55 carriers reported that they were "Other Local Exchange Carriers." Of the 55 "Other Local Exchange Carriers," an estimated 53 have 1,500 or fewer employees and two have more than 1,500 employees.[2360] Consequently, the Commission estimates that most providers of competitive local

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[2352] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2353] 1997 Economic Census, Establishment and Firm Size, Table 5, NAICS code 513310 (issued Oct. 2000).

[2354] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

[2355] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2356] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2357] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2358] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2359] *Id.*

exchange service, competitive access providers, and "Other Local Exchange Carriers" are small entities that may be affected by the rules and policies adopted herein.

797. *Interexchange Carriers*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to interexchange services. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[2361] According to Commission data, 229 companies reported that their primary telecommunications service activity was the provision of interexchange services.[2362] Of these 229 companies, an estimated 181 have 1,500 or fewer employees and 48 have more than 1,500 employees.[2363] Consequently, the Commission estimates that the majority of interexchange service providers are small entities that may be affected by the rules and policies adopted herein.

798. *OSPs*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to OSPs. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[2364] According to Commission data, 22 companies reported that they were engaged in the provision of operator services.[2365] Of these 22 companies, an estimated 20 have 1,500 or fewer employees and two have more than 1,500 employees.[2366] Consequently, the Commission estimates that the great majority of OSPs are small entities that may be affected by the rules and policies adopted herein.

799. *Prepaid Calling Card Providers*. The SBA has developed a size standard for a small business within the category of Telecommunications Resellers. Under that SBA size standard, such a business is small if it has 1,500 or fewer employees.[2367] According to Commission data, 32 companies reported that they were engaged in the provision of prepaid calling cards.[2368] Of these 32 companies, an estimated 31 have 1,500 or fewer employees and one has more than 1,500 employees.[2369] Consequently, the Commission estimates that the great

(Continued from previous page)

[2360] *Id.*

[2361] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2362] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2363] *Id.*

[2364] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2365] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2366] *Id.*

[2367] 13 C.F.R. § 121.201, NAICS code 513330 (changed to 517310 in Oct. 2002).

[2368] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2369] *Id.*

majority of prepaid calling card providers are small entities that may be affected by the rules and policies adopted herein.

800. *Other Toll Carriers.* Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to "Other Toll Carriers." This category includes toll carriers that do not fall within the categories of interexchange carriers, OSPs, prepaid calling card providers, satellite service carriers, or toll resellers. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[2370] According to Commission's data, 42 companies reported that their primary telecommunications service activity was the provision of payphone services.[2371] Of these 42 companies, an estimated 37 have 1,500 or fewer employees and five have more than 1,500 employees.[2372] Consequently, the Commission estimates that most "Other Toll Carriers" are small entities that may be affected by the rules and policies adopted herein.

801. *Wireless Service Providers.* The SBA has developed a small business size standard for wireless firms within the two broad economic census categories of Paging[2373] and Cellular and Other Wireless Telecommunications.[2374] Under both SBA categories, a wireless business is small if it has 1,500 or fewer employees. For the census category of Paging, Census Bureau data for 1997 show that there were 1320 firms in this category, total, that operated for the entire year.[2375] Of this total, 1303 firms had employment of 999 or fewer employees, and an additional 17 firms had employment of 1,000 employees or more.[2376] Thus, under this category and associated small business size standard, the great majority of firms can be considered small. For the census category Cellular and Other Wireless Telecommunications firms, Census Bureau data for 1997 show that there were 977 firms in this category, total, that operated for the entire year.[2377] Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.[2378] Thus, under this second category and size standard, the great majority of firms can, again, be considered small.

[2370] 13 C.F.R. § 121.201, NAICS code 513310 (changed to 517110 in Oct. 2002).

[2371] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2372] *Id*.

[2373] 13 C.F.R. § 121.201, NAICS code 513321 (changed to 517211 in Oct. 2002).

[2374] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2375] 1997 Economic Census, Employment Size of Firms, Table 5, NAICS code 513321 (issued Oct. 2000).

[2376] *Id*. The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

[2377] 1997 Economic Census, Employment Size of Firms, Table 5, NAICS code 513322 (issued Oct. 2000).

[2378] *Id*. The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

802. *Broadband PCS.* The broadband PCS spectrum is divided into six frequency blocks designated A through F, and the Commission has held auctions for each block. The Commission defined "small entity" for Blocks C and F as an entity that has average gross revenues of $40 million or less in the three previous calendar years.[2379] For Block F, an additional classification for "very small business" was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years."[2380] These standards defining "small entity" in the context of broadband PCS auctions have been approved by the SBA.[2381] No small businesses, within the SBA-approved small business size standards bid successfully for licenses in Blocks A and B. There were 90 winning bidders that qualified as small entities in the Block C auctions. A total of 93 small and very small business bidders won approximately 40 percent of the 1,479 licenses for Blocks D, E, and F.[2382] On March 23, 1999, the Commission re-auctioned 347 C, D, E, and F Block licenses. There were 48 small business winning bidders. On January 26, 2001, the Commission completed the auction of 422 C and F Broadband PCS licenses in Auction No. 35. Of the 35 winning bidders in this auction, 29 qualified as "small" or "very small" businesses. Subsequent events, concerning Auction 305, including judicial and agency determinations, resulted in a total of 163 C and F Block licenses being available for grant. In addition, we note that, as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Also, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated.

803. *Narrowband PCS.* To date, two auctions of narrowband PCS licenses have been conducted. For purposes of the two auctions that have already been held, "small businesses" were entities with average gross revenues for the prior three calendar years of $40 million or less. Through these auctions, the Commission has awarded a total of 41 licenses, out of which 11 were obtained by small businesses. To ensure meaningful participation of small business entities in future auctions, the Commission has adopted a two-tiered small business size standard in the *Narrowband PCS Second Report and Order*.[2383] A "small business" is an entity that,

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[2379] *See Amendment of Parts 20 and 24 of the Commission's Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap*, WT Docket No. 96-59, Report and Order, 11 FCC Rcd 7824 (1996); *see also* 47 C.F.R. § 24.720(b).

[2380] *See Amendment of Parts 20 and 24 of the Commission's Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap*, WT Docket No. 96-59, Report and Order, 11 FCC Rcd 7824 (1996).

[2381] *See, e.g.*, *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, PP Docket No. 93-253, Fifth Report and Order, 9 FCC Rcd 5332 (1994).

[2382] *Broadband PCS, D, E and F Block Auction Closes*, (rel. Jan. 14, 1997); *see also Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licenses*, WT Docket No. 97-82, Second Report and Order, 12 FCC Rcd 16436 (1997).

[2383] *In the Matter of Amendment of the Commission's Rules to Establish New Personal Communications Services, Narrowband PCS*, Docket Nos. ET 92-100, PP 93-253, Second Report and Order and Second Further Notice of Proposed Rulemaking, 15 FCC Rcd 10456 (2000).

together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than $40 million. A "very small business" is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than $15 million. The SBA has approved these small business size standards.[2384] In the future, the Commission will auction 459 licenses to serve MTAs and 408 response channel licenses. There is also one megahertz of narrowband PCS spectrum that has been held in reserve and that the Commission has not yet decided to release for licensing. The Commission cannot predict accurately the number of licenses that will be awarded to small entities in future actions. However, four of the 16 winning bidders in the two previous narrowband PCS auctions were small businesses, as that term was defined under the Commission's Rules. The Commission assumes, for purposes of this analysis that a large portion of the remaining narrowband PCS licenses will be awarded to small entities. The Commission also assumes that at least some small businesses will acquire narrowband PCS licenses by means of the Commission's partitioning and disaggregation rules.

804. *220 MHz Radio Service – Phase I Licensees.* The 220 MHz service has both Phase I and Phase II licenses. Phase I licensing was conducted by lotteries in 1992 and 1993. There are approximately 1,515 such non-nationwide licensees and four nationwide licensees currently authorized to operate in the 220 MHz band. The Commission has not developed a small business size standard for small entities specifically applicable to such incumbent 220 MHz Phase I licensees. To estimate the number of such licensees that are small businesses, we apply the small business size standard under the SBA rules applicable to "Cellular and Other Wireless Telecommunications" companies. This standard provides that such a company is small if it employs no more than 1,500 persons.[2385] According to Census Bureau data for 1997, there were 977 firms in this category, total, that operated for the entire year.[2386] Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.[2387] If this general ratio continues in the context of Phase I 220 MHz licensees, the Commission estimates that nearly all such licensees are small businesses under the SBA's small business size standard.

805. *220 MHz Radio Service – Phase II Licensees.* The 220 MHz service has both Phase I and Phase II licenses. The Phase II 220 MHz service is a new service, and is subject to spectrum auctions. In the *220 MHz Third Report and Order*, we adopted a small business size standard for "small" and "very small" businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[2388] This small business size

[2384] *See* SBA Dec. 2, 1998 *Ex Parte* Letter.

[2385] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2386] 1997 Economic Census, Employment Size of Firms, Table 5, NAICS code 513322 (issued Oct. 2000).

[2387] *Id*. The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

[2388] *220 MHz Third Report and Order*, 12 FCC Rcd at 11068-70, paras. 291-295.

standard indicates that a "small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $15 million for the preceding three years.[2389] A "very small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues that do not exceed $3 million for the preceding three years. The SBA has approved these small business size standards.[2390] Auctions of Phase II licenses commenced on September 15, 1998, and closed on October 22, 1998.[2391] In the first auction, 908 licenses were auctioned in three different-sized geographic areas: three nationwide licenses, 30 Regional EAG Licenses, and 875 EA Licenses. Of the 908 licenses auctioned, 693 were sold. Thirty-nine small businesses won licenses in the first 220 MHz auction. The second auction included 225 licenses: 216 EA licenses and 9 EAG licenses. Fourteen companies claiming small business status won 158 licenses.[2392]

806. *800 MHz and 900 MHz SMR Licenses.* The Commission awards "small entity" and "very small entity" bidding credits in auctions for SMR geographic area licenses in the 800 MHz and 900 MHz bands to firms that had revenues of no more than $15 million in each of the three previous calendar years, or that had revenues of no more than $3 million in each of the previous calendar years, respectively.[2393] These bidding credits apply to SMR providers in the 800 MHz and 900 MHz bands that either hold geographic area licenses or have obtained extended implementation authorizations. The Commission does not know how many firms provide 800 MHz or 900 MHz geographic area SMR service pursuant to extended implementation authorizations, nor how many of these providers have annual revenues of no more than $15 million. One firm has over $15 million in revenues. The Commission assumes, for purposes here, that all of the remaining existing extended implementation authorizations are held by small entities, as that term is defined by the Small Business Act. The Commission has held auctions for geographic area licenses in the 800 MHz and 900 MHz SMR bands. There were 60 winning bidders that qualified as small or very small entities in the 900 MHz SMR auctions. Of the 1,020 licenses won in the 900 MHz auction, bidders qualifying as small or very small entities won 263 licenses. In the 800 MHz auction, 38 of the 524 licenses won were won by small and very small entities. Consequently, the Commission estimates that there are 301 or fewer small entity SMR licensees in the 800 MHz and 900 MHz bands that may be affected by the rules and policies adopted herein.

[2389] *Id.* at para. 291.

[2390] *See* SBA Jan. 6, 1998 *Ex Parte* Letter.

[2391] *See generally, Phase II 220 MHz Service Auction Closes, Winning Bidders in the Auction of 908 Phase II 220 MHz Service Licenses, Down Payments Due November 6, 1998, FCC Form 601s Due November 6, 1998, Ten-Day Petition to Deny Period*, Report No. AUC-18-F, DA No. 98-2143, 14 FCC Rcd 605 (rel. Oct. 23, 1998).

[2392] *Phase II 220 MHz Service Spectrum Auction Closes*, Report No. AUC-24-E, DA 99-1287, 14 FCC Rcd 11218 (rel. July 1, 1999).

[2393] 47 C.F.R. § 90.814(b)(1).

807. *Common Carrier Paging.* In the Paging Third Report and Order, we developed a small business size standard for "small businesses" and "very small businesses" for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[2394] A "small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $15 million for the preceding three years. Additionally, a "very small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the preceding three years. An auction of MEA licenses commenced on February 24, 2000, and closed on March 2, 2000.[2395] Of the 985 licenses auctioned, 440 were sold. Fifty-seven companies claiming small business status won. At present, there are approximately 24,000 Private-Paging site-specific licenses and 74,000 Common Carrier Paging licenses. According to the *Trends in Telephone Service May 2002 Report*, 471 carriers reported that they were engaged in the provision of either paging and messaging services or other mobile services.[2396] Of those, the Commission estimates that 450 are small, under the SBA business size standard specifying that firms are small if they have 1,500 or fewer employees.[2397]

808. *700 MHz Guard Band Licensees.* In the 700 MHz Guard Band Order, we adopted a small business size standard for "small businesses" and "very small businesses" for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[2398] A "small business" as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $15 million for the preceding three years. Additionally, a "very small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the preceding three years. An auction of 52 MEA licenses commenced on September 6, 2000, and closed on September 21, 2000.[2399] Of the 104 licenses auctioned, 96 licenses were sold to nine bidders. Five of these bidders were small businesses that won a total of 26 licenses. A second auction of 700 MHz Guard Band licenses commenced on February 13, 2001 and closed on February 21, 2001. All eight of the licenses auctioned were sold to three bidders. One of these bidders was a small business that won a total of two licenses.[2400]

[2394] *220 MHz Third Report and Order*, 12 FCC Rcd at 11068-70, paras. 291-95.

[2395] *Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems*, WT Docket No. 96-18, Memorandum Opinion and Order on Reconsideration and Third Report and Order, 14 FCC Rcd 10030, para. 98 (1999).

[2396] *Trends in Telephone Service May 2002 Report* at Table 5.3.

[2397] *Id*. The SBA size standard is that of Paging, 13 C.F.R. § 121.201, NAICS code 517211.

[2398] *See Service Rules for the 746-764 MHz Bands, and Revisions to Part 27 of the Commission's Rules*, WT Docket No. 99-168, Second Report and Order, 15 FCC Rcd 5299 (2000).

[2399] *See generally, 220 MHz Service Auction Closes*, Report No. WT 98-36 (rel Oct. 23, 1998).

[2400] *700 MHz Guard Band Auction Closes*, Report No. AUC-38-F, DA 01-478, 16 FCC Rcd 4590 (rel. Feb. 22, 2001).

809. *Rural Radiotelephone Service.* The Commission has not adopted a size standard for small businesses specific to the Rural Radiotelephone Service.[2401] A significant subset of the Rural Radiotelephone Service is the BETRS.[2402] The Commission uses the SBA's small business size standard applicable to "Cellular and Other Wireless Telecommunications," *i.e.*, an entity employing no more than 1,500 persons.[2403] There are approximately 1,000 licensees in the Rural Radiotelephone Service, and the Commission estimates that there are 1,000 or fewer small entity licensees in the Rural Radiotelephone Service that may be affected by the rules and policies adopted herein.

810. *Air-Ground Radiotelephone Service.* The Commission has not adopted a small business size standard specific to the Air-Ground Radiotelephone Service.[2404] We will use SBA's small business size standard applicable to "Cellular and Other Wireless Telecommunications," *i.e.*, an entity employing no more than 1,500 persons.[2405] There are approximately 100 licensees in the Air-Ground Radiotelephone Service, and we estimate that almost all of them qualify as small under the SBA small business size standard.

811. *Aviation and Marine Radio Services.* Small businesses in the aviation and marine radio services use a VHF marine or aircraft radio and, as appropriate, an emergency position-indicating radio beacon (and/or radar) or an emergency locator transmitter. The Commission has not developed a small business size standard specifically applicable to these small businesses. For purposes of this analysis, the Commission uses the SBA small business size standard for the category "Cellular and Other Telecommunications," which is 1,500 or fewer employees.[2406] Most applicants for recreational licenses are individuals. Approximately 581,000 ship station licensees and 131,000 aircraft station licensees operate domestically and are not subject to the radio carriage requirements of any statute or treaty. For purposes of our evaluations in this analysis, we estimate that there are up to approximately 712,000 licensees that are small businesses (or individuals) under the SBA standard. In addition, between December 3, 1998 and December 14, 1998, the Commission held an auction of 42 VHF Public Coast licenses in the 157.1875-157.4500 MHz (ship transmit) and 161.775-162.0125 MHz (coast transmit) bands. For purposes of the auction, the Commission defined a "small" business as an entity that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed $15 million dollars. In addition, a "very small" business is one that, together with controlling interests and affiliates, has average gross revenues for the preceding

[2401] The service is defined in section 22.99 of the Commission's Rules, 47 C.F.R. § 22.99.

[2402] BETRS is defined in sections 22.757 and 22.759 of the Commission's Rules, 47 C.F.R. §§ 22.757 and 22.759.

[2403] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2404] The service is defined in section 22.99 of the Commission's Rules, 47 C.F.R. § 22.99.

[2405] 13 C.F.R. § 121.201, NAICS codes 513322 (changed to 517212 in Oct. 2002).

[2406] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

three years not to exceed $3 million dollars.[2407] There are approximately 10,672 licensees in the Marine Coast Service, and the Commission estimates that almost all of them qualify as "small" businesses under the above special small business size standards.

812. *Fixed Microwave Services.* Fixed microwave services include common carrier,[2408] private operational-fixed,[2409] and broadcast auxiliary radio services.[2410] At present, there are approximately 22,015 common carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not created a size standard for a small business specifically with respect to fixed microwave services. For purposes of this analysis, the Commission uses the SBA small business size standard for the category "Cellular and Other Telecommunications," which is 1,500 or fewer employees.[2411] The Commission does not have data specifying the number of these licensees that have more than 1,500 employees, and thus are unable at this time to estimate with greater precision the number of fixed microwave service licensees that would qualify as small business concerns under the SBA's small business size standard. Consequently, the Commission estimates that there are up to 22,015 common carrier fixed licensees and up to 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services that may be small and may be affected by the rules and policies adopted herein. We noted, however, that the common carrier microwave fixed licensee category includes some large entities.

813. *Offshore Radiotelephone Service.* This service operates on several UHF television broadcast channels that are not used for television broadcasting in the coastal areas of states bordering the Gulf of Mexico.[2412] There are presently approximately 55 licensees in this service. We are unable to estimate at this time the number of licensees that would qualify as small under the SBA's small business size standard for "Cellular and Other Wireless

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[2407] *Amendment of the Commission's Rules Concerning Maritime Communications*, PR Docket No. 92-257, Third Report and Order and Memorandum Opinion and Order, 13 FCC Rcd 19853 (1998).

[2408] *See* 47 C.F.R. §§ 101 *et seq*. (formerly, Part 21 of the Commission's Rules) for common carrier fixed microwave services (except MDS).

[2409] Persons eligible under Parts 80 and 90 of the Commission's Rules can use Private Operational-Fixed Microwave services. *See* 47 C.F.R. Parts 80 and 90. Stations in this service are called operational-fixed to distinguish them from common carrier and public fixed stations. Only the licensee may use the operational-fixed station, and only for communications related to the licensee's commercial, industrial, or safety operations.

[2410] Auxiliary Microwave Service is governed by Part 74 of Title 47 of the Commission's Rules. *See* 47 C.F.R. Part 74. This service is available to licensees of broadcast stations and to broadcast and cable network entities. Broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile television pickups, which relay signals from a remote location back to the studio.

[2411] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2412] This service is governed by Subpart I of Part 22 of the Commission's Rules. *See* 47 C.F.R. §§ 22.1001-22.1037.

Telecommunications" services.[2413] Under that SBA small business size standard, a business is small if it has 1,500 or fewer employees.[2414]

814. *WCS.* This service can be used for fixed, mobile, radiolocation, and digital audio broadcasting satellite uses. The Commission established small business size standards for the WCS auction. A "small business" is an entity with average gross revenues of $40 million for each of the three preceding years, and a "very small business" is an entity with average gross revenues of $15 million for each of the three preceding years. The SBA has approved these small business size standards.[2415] The Commission auctioned geographic area licenses in the WCS service. In the auction, there were seven winning bidders that qualified as "very small business" entities, and one that qualified as a "small business" entity. We conclude that the number of geographic area WCS licensees affected by this analysis includes these eight entities.

815. *39 GHz Service.* The Commission created a special small business size standard for 39 GHz licenses – an entity that has average gross revenues of $40 million or less in the three previous calendar years.[2416] An additional size standard for "very small business" is: an entity that, together with affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[2417] The SBA has approved these small business size standards.[2418] The auction of the 2,173 39 GHz licenses began on April 12, 2000 and closed on May 8, 2000. The 18 bidders who claimed small business status won 849 licenses. Consequently, the Commission estimates that 18 or fewer 39 GHz licensees are small entities that may be affected by the rules and polices adopted herein.

816. *MD*S*, MMDS, and ITFS.* MMDS systems, often referred to as "wireless cable," transmit video programming to subscribers using the microwave frequencies of the MDS and ITFS.[2419] In connection with the 1996 MDS auction, the Commission established a small business size standard as an entity that had annual average gross revenues of less than $40 million in the previous three calendar years.[2420] The MDS auctions resulted in 67 successful

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[2413] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2414] *Id*.

[2415] *See* SBA Dec. 2, 1998 *Ex Parte* Letter.

[2416] *See Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands*, ET Docket No. 95-183, Report and Order and Second Notice of Proposed Rulemaking, 12 FCC Rcd 18600 (1997).

[2417] *Id.*

[2418] *See* SBA Feb. 4, 1998 *Ex Parte* Letter.

[2419] *Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, Docket Nos. MM 94-131, PP 93-253, Report and Order, 10 FCC Rcd 9589, 9593, para. 7 (1995).

[2420] 47 C.F.R. § 21.961(b)(1).

bidders obtaining licensing opportunities for 493 BTAs. Of the 67 auction winners, 61 met the definition of a small business. MDS also includes licensees of stations authorized prior to the auction. In addition, the SBA has developed a small business size standard for Cable and Other Program Distribution, which includes all such companies generating $12.5 million or less in annual receipts.[2421] According to Census Bureau data for 1997, there were a total of 1,311 firms in this category, total, that had operated for the entire year.[2422] Of this total, 1,180 firms had annual receipts of under $10 million and an additional 52 firms had receipts of $10 million or more but less than $25 million. Consequently, we estimate that the majority of providers in this service category are small businesses that may be affected by the rules and policies adopted herein. This SBA small business size standard also appears applicable to ITFS. There are presently 2,032 ITFS licensees. All but 100 of these licenses are held by educational institutions. Educational institutions are included in this analysis as small entities.[2423] Thus, we tentatively conclude that at least 1,932 licensees are small businesses.

817. *LMDS.* LMDS is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications.[2424] The auction of the 1,030 LMDS licenses began on February 18, 1998 and closed on March 25, 1998. The Commission established a small business size standard for LMDS licenses as an entity that has average gross revenues of less than $40 million in the three previous calendar years.[2425] An additional small business size standard for "very small business" was added as an entity that, together with its affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[2426] The SBA has approved these small business size standards in the context of LMDS auctions.[2427] There were 93 winning bidders that qualified as small entities in the LMDS auctions. A total of 93 small and very small business bidders won approximately 277 A Block licenses and 387 B Block licenses. On March 27, 1999, the Commission re-auctioned 161 licenses; there were 40 winning bidders. Based on this information, we conclude that the number of small LMDS licenses consists of the 93 winning bidders in the first auction and the 40 winning bidders in the re-auction, for a total of 133 small entity LMDS providers.

[2421] 13 C.F.R. § 121.201, NAICS code 513220 (changed to 517510 in Oct. 2002).

[2422] 1997 Economic Census, Establishment and Firm Size, Table 4, NAICS code 513220 (issued Oct. 2000).

[2423] In addition, the term "small entity" within SBREFA applies to small organizations (nonprofits) and to small governmental jurisdictions (cities, counties, towns, townships, villages, school districts, and special districts with populations of less than 50,000). 5 U.S.C. §§ 601(4)-(6). We do not collect annual revenue data on ITFS licensees.

[2424] *See Local Multipoint Distribution Service*, CC Docket No. 92-297, Second Report and Order, 12 FCC Rcd 12545 (1997).

[2425] *Id.*

[2426] *Id.*

[2427] *See* SBA Jan. 6, 1998 *Ex Parte* Letter.

818. *218-219 MHz Service.* The first auction of 218-219 MHz spectrum resulted in 170 entities winning licenses for 594 MSA licenses. Of the 594 licenses, 557 were won by entities qualifying as a small business. For that auction, the small business size standard was an entity that, together with its affiliates, has no more than a $6 million net worth and, after federal income taxes (excluding any carry-over losses), has no more than $2 million in annual profits each year for the previous two years.[2428] In the 218-219 MHz Report and Order and Memorandum Opinion and Order, we established a small business size standard for a "small business" as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and their affiliates, has average annual gross revenues not to exceed $15 million for the preceding three years.[2429] A "very small business" is defined as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and its affiliates, has average annual gross revenues not to exceed $3 million for the preceding three years.[2430] We cannot estimate, however, the number of licenses that will be won by entities qualifying as small or very small businesses under our rules in future auctions of 218-219 MHz spectrum.

819. *24 GHz – Incumbent Licensees.* This analysis may affect incumbent licensees who were relocated to the 24 GHz band from the 18 GHz band, and applicants who wish to provide services in the 24 GHz band. The applicable SBA small business size standard is that of "Cellular and Other Wireless Telecommunications" companies. This category provides that such a company is small if it employs no more than 1,500 persons.[2431] According to Census Bureau data for 1997, there were 977 firms in this category, total, that operated for the entire year.[2432] Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.[2433] Thus, under this size standard, the great majority of firms can be considered small. These broader census data notwithstanding, we believe that there are only two licensees in the 24 GHz band that were relocated from the 18 GHz band, Teligent and TRW, Inc.[2434] It is our understanding that Teligent and its related companies have less than 1,500 employees, though this may change in the future. TRW is not a small entity. Thus, only one incumbent licensee in the 24 GHz band is a small business entity.

[2428] *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, PP Docket No. 93-253, Fourth Report and Order, 9 FCC Rcd 2330 (1994).

[2429] *Amendment of Part 95 of the Commission's Rules to Provide Regulatory Flexibility in the 218-219 MHz Service*, WT Docket No. 98-169, Report and Order and Memorandum Opinion and Order, 15 FCC Rcd 1497 (1999).

[2430] *Id*.

[2431] 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in Oct. 2002).

[2432] 1997 Economic Census, Employment Size of Firms, Table 5, NAICS code 513322 (issued Oct. 2000).

[2433] *Id*. The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

[2434] Teligent acquired the DEMS licenses of FirstMark, the only licensee other than TRW in the 24 GHz band whose license has been modified to require relocation to the 24 GHz band.

820. *24 GHz – Future Licensees.* With respect to new applicants in the 24 GHz band, the small business size standard for "small business" is an entity that, together with controlling interests and affiliates, has average annual gross revenues for the three preceding years not in excess of $15 million.[2435] "Very small business" in the 24 GHz band is an entity that, together with controlling interests and affiliates, has average gross revenues not exceeding $3 million for the preceding three years.[2436] The SBA has approved these small business size standards.[2437] These size standards will apply to the future auction, if held.

821. *ISPs.* While ISPs are only indirectly affected by our present actions, and ISPs are therefore not formally included within this present IRFA, we address them informally to create a fuller record. The SBA has developed a small business size standard for Online Information Services, which consists of all such companies having $21 million or less in annual receipts.[2438] According to Census Bureau data for 1997, there were 2,751 firms in this category, total, that operated for the entire year.[2439] Of this total, 2,659 firms had annual receipts of $9,999,999 or less, and an additional 67 had receipts of $10 million to $24,999,999.[2440] Thus, under this size standard, the great majority of firms can be considered small.

4. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

822. In this FNPRM, we seek comment on proposed rules that would eliminate the current pick-and-choose rules under some circumstances.[2441] The proposed changes may restrict competitive LECs' choices to opt into specific terms and conditions of existing interconnection agreements, perhaps requiring competitors to opt into entire agreements or negotiate their own agreements with incumbents. The proposed rules may encourage incumbent LECs to seek approval from state public utility commissions for statements of generally available terms and conditions.

[2435] *Amendments to Parts 1,2, 87 and 101 of the Commission's Rules to License Fixed Services at 24 GHz*, WT Docket No. 99-327, Report and Order, 15 FCC Rcd 16934, 16967 (2000); *see also* 47 C.F.R. § 101.538(a)(2).

[2436] *Amendments to Parts 1,2, 87 and 101 of the Commission's Rules to License Fixed Services at 24 GHz*, WT Docket No. 99-327, Report and Order, 15 FCC Rcd 16934, 16967 (2000); *see also* 47 C.F.R. § 101.538(a)(1).

[2437] *See* SBA July 28, 2000 *Ex Parte* Letter.

[2438] 13 C.F.R. § 121.201, NAICS code 514191 (changed to 518111 in Oct. 2002).

[2439] 1997 Economic Census, Receipts Size of Firms, Table 4, NAICS code 514191 (issued Oct. 2000).

[2440] *Id.*

[2441] *See supra* Part IX.

5. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

823. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[2442]

824. In this FNPRM, we seek comment on amending the pick-and-choose rules in a manner that encourages more customized contracts between competitive and incumbent LECs, as envisioned by the Act. The FNPRM proposes to remove disincentives to the ability of incumbent LECs and competitive LECs to negotiate more customized agreements, including agreements that may include significant concessions in exchange for negotiated benefits. In doing so, the FNPRM also seeks to minimize the potential for discrimination against third parties that may seek to opt into the entire agreement by proposing that incumbent LECs first file and receive state approval for a statement of generally available terms and conditions (SGAT) before the incumbent LEC may file other interconnection agreements not subject to the pick-and-choose rules.

825. Changing the current rules, in favor of an approach where competitive LECs – including small entities – must opt into entire agreements, rather than individual terms and conditions, may impose additional burdens on these parties than they currently bear. We will consider, therefore, maintaining the current pick-and-choose rules. The current rules, however, may expose incumbent LECs to the risk that subsequent entrants may reap a one-sided benefit from negotiated concessions made between the incumbent LEC and the actual contracting competitive LEC, and this may form a disincentive to negotiation to both negotiating parties. This may, in turn, impose additional burdens on competitors and incumbents as the parties attempt to reach agreements and resolve disputes, often through arbitration and litigation, in a regulatory environment that creates disincentives for either party to compromise. For this reason, we do not propose to establish a separate pick-and-choose regime to govern small business incumbents or competitors. We believe the alternative advanced in the FNPRM – by proposing to modify the application of the pick-and-choose rule for any incumbent LEC that files and receives state approval of a statement of generally available terms and conditions (SGAT) – would serve the Commission's goal of encouraging negotiation while protecting the rights and interests of competitors, including small businesses. We invite comment on this approach, and we plan to review the record assembled in response to the FNPRM with a view to considering the least burdensome way to achieve market-driven contract negotiations.

[2442] 5 U.S.C. § 603(c).

6. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

826. None.

C. Other Procedural Matters

1. Ex Parte Presentations

827. This matter shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[2443] Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must contain summaries of the substance of the presentations and not merely a listing of the subjects discussed. More than a one or two sentence description of the views and arguments presented in generally required.[2444] Other requirements pertaining to oral and written presentations are set forth in section 1.1206(b) of the Commission's rules.

2. Comment Filing Procedures

828. Pursuant to sections 1.415 and 1.419 of the Commission's rules,[2445] interested parties may file comments not later than 30 days after publication of this Notice in the Federal Register and may file reply comments not later than 30 days after the date for filing comments. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies.[2446] Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. If multiple docket or rulemaking numbers appear in the caption of this proceeding, however, commenters must transmit one electronic copy of the comments to each docket or rulemaking number referenced in the caption. In completing the transmittal screen, commenters should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message, "get form <your e-mail address>." A sample form and directions will be sent in reply. Parties who choose to file by paper must file an original and five copies of each filing. If more than one docket or rulemaking number appear in the caption of this proceeding, commenters must submit two additional copies for each additional docket or rulemaking number. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service

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[2443] 47 C.F.R. § 1.1200 *et seq*.

[2444] *See* 47 C.F.R. § 1.1206(b)(2).

[2445] 47 C.F.R. §§ 1.415, 1.419,

[2446] *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 Fed. Reg. 24121 (1998).

mail). The Commission's contractor, Vistronix, Inc., will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building. Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743. U.S. Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12th Street, S.W., Washington, D.C. 20554. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

3. Scope of Written *Ex Parte* Presentations Included in This Proceeding

829. The Commission adopted the substance of this Order at an open meeting on February 20, 2003. Originally, this meeting was scheduled for February 13, 2003 by a notice issued February 6, 2003, which initiated the Sunshine period prohibition on *ex parte* presentations to the Commission and staff. The Commission lifted this Sunshine restriction late on February 10, 2003, but reimposed it on February 13, 2003 by releasing a public notice announcing inclusion of this proceeding on the Sunshine agenda for a Commission meeting on February 20, 2003. In light of these facts and the widespread interest in this proceeding, we find it in the public interest to include in the record *ex parte* presentations that were made on February 10, but prior to the lifting of the Sunshine restriction. We also include in the record *ex parte* presentations made during the imposition of the Sunshine restriction in direct response to an express request by a Commissioner or Commission staff.

XI. ORDERING CLAUSES

830. Accordingly, IT IS ORDERED that pursuant to Sections 1, 3, 4, 201-205, 251, 256, 271, 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, 252, 256, 271, 303(r), and Section 706 of the Telecommunications Act of 1996, 47 U.S.C. § 157 nt, the *Report and Order on Remand and Further Notice of Proposed Rulemaking* in CC Docket No. 01-338 IS ADOPTED, and that Part 51 of the Commission's Rules, 47 C.F.R. Part 51, is amended as set forth in Appendix B. The requirements of this Order shall become effective 30 days after publication in the Federal Register, pending Office of Management and Budget (OMB) approval.[2447] The Commission will publish a document in the Federal Register announcing the effective date of these rules.

831. IT IS FURTHER ORDERED that the collection of information contained herein is contingent upon approval by the OMB.

832. IT IS FURTHER ORDERED, pursuant to sections 1, 3, 4, 201-205, 251, 256, 271, and 303(r) of the Communications Act, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, 252, 256, 271, and 303(r), and Section 706 of the Telecommunications Act of 1996, 47 U.S.C. § 157 nt. that the petitions for reconsideration of the *UNE Remand Order* filed in CC

[2447] In light of the importance of these rules, the Commission is seeking emergency approval from OMB.

Docket No. 96-98 by Low Tech Designs, Inc. on February 15, 2000 and by the Telecommunications Resellers Association on February 18, 2000; the petition for partial reconsideration of the *UNE Remand Order* filed in CC Docket No. 96-98 by Birch Telecom, Inc. on February 17, 2000; the petition for reconsideration and clarification of the *UNE Remand Order* filed in CC Docket No. 96-98 by Sprint Corporation on February 17, 2000; the petition for clarification on reconsideration of the *UNE Remand Order* filed in CC Docket No. 96-98, 95-185 by MGC Communications, Inc., d/b/a Mpower Communications, Corp. on February 17, 2000; the joint petition filed in CC Docket No. 96-98 by BellSouth Corporation and BellSouth Telecommunications, Inc., SBC Communications, Inc., and Verizon Telephone Companies on April 5, 2001; the petitions for waiver of the supplemental order clarification filed in CC Docket No. 96-98 by WorldCom, Inc. on September 12, 2000 and ITC^DeltaCom Communications, Inc. on August 16, 2001; the petition filed in CC Docket Nos. 01-338, 96-98, 98-147 by Promoting Active Competition Everywhere (PACE) Coalition on February 6, 2002; and the petition for declaratory ruling filed in CC Docket No. 01-338 by WorldCom, Inc. on August 8, 2002 ARE DISMISSED AS MOOT.

833. IT IS FURTHER ORDERED, pursuant to sections 1, 3, 4, 201-205, 251, 256, 271, and 303(r) of the Communications Act, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, 252, 256, 271, and 303(r), and Section 706 of the Telecommunications Act of 1996, 47 U.S.C. § 157 nt. that the joint petition for declaratory ruling filed in CC Docket No. 96-98 by AT&T Wireless Services, Inc. and VoiceStream Wireless, Corp. on November 19, 2001 IS GRANTED to the extent indicated herein and otherwise IS MOOT.

834. IT IS FURTHER ORDERED, pursuant to sections 1, 3, 4, 201-205, 251, 256, 271, and 303(r) of the Communications Act, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, 252, 256, 271, and 303(r), and Section 706 of the Telecommunications Act of 1996, 47 U.S.C. § 157 nt. that the petition for reconsideration/clarification of the *UNE Remand Order* filed in CC Docket No. 96-98 by BellSouth Corporation and BellSouth Telecommunications, Inc. on February 17, 2000 IS GRANTED to the extent indicated herein and otherwise ARE DENIED.

835. IT IS FURTHER ORDERED, pursuant to sections 1, 3, 4, 201-205, 251, 256, 271, and 303(r) of the Communications Act, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, 252, 256, 271, and 303(r), and Section 706 of the Telecommunications Act of 1996, 47 U.S.C. § 157 nt. that the petitions for reconsideration of the *UNE Remand Order* filed in CC Docket Nos. 96-98, 95-185 by Rhythms Netconnections Inc. and Covad Communications Co. on January 21, 2000, @Link Networks, Inc., DSL.net, Inc. and MGC Communications, Inc., d/b/a Mpower Communications Corp. on February 17, 2000, McLeodUSA Telecommunications Services, Inc. and the petition for reconsideration of the *UNE Remand Order* filed in CC Docket No. 96-98 by RCN Telecom Services, Inc. on February 17, 2000 ARE DENIED.

836. IT IS FURTHER ORDERED, pursuant to sections 1, 3, 4, 201-205, 251, 256, 271, and 303(r) of the Communications Act, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, 252, 256, 271, and 303(r), and Section 706 of the Telecommunications Act of 1996, 47 U.S.C. § 157 nt. that the petition of the *UNE Remand Order* filed in CC Docket No. 96-98 by Competitive Telecommunications Association on November 26, 2001; and the petitions for

reconsideration of the *UNE Remand Order* filed in CC Docket No. 96-98 by Intermedia Communications, Inc. and by MCI WorldCom, Inc. on February 17, 2000 ARE DENIED to the extent indicated herein and otherwise ARE DISMISSED AS MOOT.

837. IT IS FURTHER ORDERED, pursuant to sections 1, 3, 4, 201-205, 251, 256, 271, and 303(r) of the Communications Act, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, 252, 256, 271, and 303(r), and Section 706 of the Telecommunications Act of 1996, 47 U.S.C. § 157 nt. that the petition for clarification of the *UNE Remand Order* filed in CC Docket No. 96-98 by MCI WorldCom, Inc. on February 17, 2000; the petition for reconsideration of the *UNE Remand Order* filed in CC Docket No. 96-98 by the Competitive Telecommunications Association on February 17, 2000; the petition for reconsideration and clarification of the *UNE Remand Order* filed in CC Docket No. 96-98 by Bell Atlantic on February 17, 2000; and the petition for reconsideration and clarification of the *UNE Remand Order* filed in CC Docket No. 96-98 by AT&T Corp. on February 17, 2000 ARE GRANTED to the extent indicated herein and otherwise ARE DENIED or DISMISSED AS MOOT.

838. IT IS FURTHER ORDERED that the Public Notice, *Comments Sought on the Use of Unbundled Network Elements to Provide Exchange Access Service*, CC Docket No. 96-98, DA 01-169 (rel. Jan. 24, 2001); *Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order on Reconsideration in CC Docket No. 98-147, Fourth Report and Order on Reconsideration in CC Docket No. 96-98, Third Further Notice of Proposed Rulemaking in CC Docket No. 98-147, and Sixth Further Notice of Proposed Rulemaking in CC Docket No. 96-98, 16 FCC Rcd 2101 (2001); *Implementation of Local Competition Provisions of the Telecommunications Act of 1996*, Third Order on Reconsideration and Further Notice of Proposed Rulemaking, CC Docket Nos. 96-98 and 95-185, 12 FCC Rcd 12460 (1997); and *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, CC Docket No. 96-98, 15 FCC Rcd 3696 (1999) ARE TERMINATED.

839. IT IS FURTHER ORDERED, that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Report and Order and Order on Remand*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

840. IT IS FURTHER ORDERED, that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Further Notice of Proposed Rulemaking*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A – LIST OF COMMENTERS

Comments	**Abbreviation**
Aaron Wilson, Jr., Pennsylvania Public Utilities Commission	Pennsylvania Commissioner Wilson
Advanced Tel, Inc.	Advanced Tel
Alaska Communications Systems	ACS
Alcatel USA, Inc.	Alcatel
Allegiance Telecom, Inc.	Allegiance
Association for Local Telecommunications Services Cbeyond Communications, LLC DSLNET Communications, LLC El Paso Networks, LLC Focal Communications Corporation New Edge Network, Inc. Pac-West Telecomm, Inc. Paetec Communications, Inc. RCN Telecom Services, Inc. US LEC Corp.	ALTS *et al*.
Association of Communications Enterprises	ASCENT
AT&T Corp.	AT&T
AT&T Wireless Services, Inc.	ATTWS
BellSouth Corporation	BellSouth
Business Telecom, Inc.	BTI
California Public Utilities Commission	California Commission
Catena Networks	Catena
Cellular Telecommunications & Internet Association	CTIA
Competitive Enterprise Institute	Competitive Enterprise Institute
Competitive Telecommunications Association	CompTel
Consumer Federation of America Texas Office of Public Utility Counsel Consumers Union Center for Digital Democracy	Consumer Federation *et al*.
Conversent Communications	Conversent
Corning, Inc.	Corning
Covad Communications Company	Covad
Dynegy Global Communications, Inc.	Dynegy
El Paso Networks, LLC CTC Communications Corp. ConEdison Communications, LLC	El Paso *et al*.
Eschelon Telecom, Inc.	Eschelon
Fiber-to-the-Home Council	FTTH Council
Florida Public Service Commission	Florida Commission
General Communication Inc.	GCI

Comments	**Abbreviation**
General Services Administration	GSA
Georgia Public Service Commission	Georgia Commission
High Tech Broadband Coalition	HTBC
Illinois Commerce Commission	Illinois Commission
Illuminet	Illuminet
Indiana Utility Regulatory Commission	Indiana Commission
Kansas Corporation Commission	Kansas Commission
Long Distance of Michigan, Inc.	LDMI
Louisiana Public Service Commission	Louisiana Commission
Maine CLEC Coalition	Maine CLEC Coalition
Massachusetts Department of Telecommunications and Energy	Massachusetts Department
McLeodUSA Telecommunications Services	McLeodUSA
Michigan Public Service Commission	Michigan Commission
Missouri Public Service Commission	Missouri Commission
Moline Dispatch Publishing Company Competitive Communications Group	Moline and CCG
Mpower Communications Corp.	Mpower
National Association of Regulatory Utilities	NARUC
National Telecommunications Cooperative Association	NTCA
Navigator Telecommunications, LLC	Navigator
NewSouth Communications	NewSouth
New York State Department of Public Service	New York Department
Next Level Communications	Next Level
Nextel Communications, Inc.	Nextel
Norlight Telecommunications, Inc.	Norlight
NuVox Inc. KMC Telecom, Inc. e.spire Communications, Inc. TDS Metrocom, Inc. Metromedia Fiber Network Services, Inc. SNiP LiNK, LLC	NuVox *et al*.
Oklahoma Corporation Commission	Oklahoma Commission
Openband of Virginia, LLC	Openband
Pennsylvania Office of the Consumer Advocate, Ohio Consumers Counsel New Hampshire Office of Consumer Advocate West Virginia Consumer Advocate Division Maryland Office of Peoples Counsel	Pennsylvania Office of the Consumer Advocate *et al*.
Pennsylvania Public Utilities Commission	Pennsylvania Commission
Progress & Freedom Foundation	Progress & Freedom Foundation

Comments	**Abbreviation**
Progress Telecom Corporation	Progress Telecom
Public Utilities Commission of Ohio	Ohio Commission
Public Utilities Commission of Texas	Texas Commission
Qwest Communications International Inc.	Qwest
Rural Independent Competitive Alliance	Rural Independent Competitive Alliance
SBC Telecommunications	SBC
Southwest Competitive Telecommunications Association	SWCTA
Sprint Corporation	Sprint
Supra Telecom	Supra
Talk America, Inc.	Talk America
Taqua, Inc.	Taqua
Telecommunications Industry Association	TIA
UNE Platform Coalition	UNE-P Coalition
United States Telecom Association	USTA
Verizon Telephone Companies	Verizon
VoiceStream Wireless Corporation	VoiceStream
WorldCom, Inc.	WorldCom
Z-Tel Communications	Z-Tel

Replies	**Abbreviation**
Access Integrated Networks, Inc.	Access Integrated Networks
Advanced Tel, Inc.	Advanced Tel
Alabama Public Service Commission	Alabama Commission
Alaska Communications Systems	ACS
Alcatel USA, Inc.	Alcatel
Allegiance Telecom, Inc.	Allegiance
Arch Wireless, Inc.	Arch Wireless
Association for Local Telecommunications Services Cbeyond Communications, LLC DSLNET Communications, LLC El Paso Networks, LLC Focal Communications Corporation New Edge Network, Inc. Pac-West Telecomm, Inc. Paetec Communications, Inc. RCN Telecom Services, Inc. US LEC Corp.	ALTS *et al*.
Association of Communications Enterprises	ASCENT
AT&T Corp.	AT&T
BellSouth Corporation	BellSouth
BrahmaCom	BrahmaCom
Catena Networks, Inc.	Catena
CCG Consulting, Inc.	CCG
Choice One Communications Inc.	Choice One
Coalition of Competitive Fiber Providers	Coalition of Competitive Fiber Providers
Colorado Public Utilities Commission	Colorado Commission
Communications Workers of America	CWA
Competitive Telecommunications Association	CompTel
Consumer Federation of America, Texas Office of Public Utility Counsel Consumers Union Center for Digital Democracy Media Access Project	Consumer Federation *et al*.
Conversent Communications LLC	Conversent
Corning, Inc.	Corning
Covad Communications Company	Covad
CTC Communications Corp.	CTC
Dobson Communications Corp.	Dobson
Earthlink, Inc.	Earthlink

Replies	**Abbreviation**
El Paso Networks, LLC CTC Communications Corp.	El Paso and CTC
Fiber-to-the-Home Council	FTTH Council
Florida Public Service Commission	Florida Commission
General Communication Inc.	GCI
High Tech Broadband Coalition	HTBC
Hugh Carter Donahue, Ph.D.	Donahue
Illinois Commerce Commission	Illinois Commission
Information Technology Industry Council	ITIC
ITC^DeltaCom Communications, Inc.	ITC^DeltaCom
Kansas Corporation Commission	Kansas Commission
LSSi Corp.	LSSi
Michigan Public Service Commission	Michigan Commission
Minnesota Department of Commerce	Minnesota Department
Missouri Public Service Commission	Missouri Commission
Mpower Communications Corp.	Mpower
National ALEC Association, Prepaid Communications Association	Nat'l ALEC and Prepaid Communications Ass'ns
National Association of Regulatory Utilities	NARUC
National Exchange Carrier Association	NECA
National Telecommunications Cooperative Association	NTCA
Nebraska Public Service Commission	Nebraska Commission
NewSouth Communications	NewSouth
New York State Office of the Attorney General	New York State Attorney General
Next Level Communications	Next Level
Nextel Communications	Nextel
NuVox Inc. KMC Telecom, Inc. TDS Metrocom, Inc. Core Communications, Inc. SNiP LiNK, LLC	NuVox *et al*.
Oregon Public Utilities Commission	Oregon Commission
Pennsylvania Public Utilities Commission	Pennsylvania Commission
Pilgrim Telephone, Inc.	Pilgrim
Progress & Freedom Foundation	Progress & Freedom Foundation
Public Utilities Commission of Ohio	Ohio Commission
Qwest Communications International	Qwest
Regulatory Commission of Alaska	Alaska Commission
SBC Telecommunications	SBC
Southwest Competitive Telecommunications Association	SWCTA

Replies	**Abbreviation**
Sprint Corporation	Sprint
Talk America, Inc.	Talk America
Telecommunications Industry Association	TIA
TeleTruth	TeleTruth
Texas Office of the Attorney General	Texas Attorney General
Texas Public Utilities Commission	Texas Commission
UNE Platform Coalition	UNE-P Coalition
United States Telecom Association	USTA
Verizon Telephone Companies	Verizon
Virginia State Corporation Commission	Virginia Commission
Washington Utilities and Transportation Commission	Washington Commission
WorldCom, Inc.	WorldCom
XO Communications, Inc.	XO
Z-Tel Communications, Inc.	Z-Tel

APPENDIX B – FINAL RULES

Part 51 of Title 47 of the Code of Federal Regulations is amended as follows:

PART 51 – INTERCONNECTION

1. The authority citation for part 51 is revised to read as follows:

Authority: Sections 1-5, 7, 201-05, 207-09, 218, 225-27, 251-54, 256, 271, 303(r), 332, 48 Stat. 1070, as amended, 1077; 47 U.S.C. §§ 151-55, 157, 201-05, 207-09, 218, 225-27, 251-54, 256, 271, 303(r), 332, and section 706 of the Telecommunications Act of 1996, Pub. L. No. 104-104, February 8, 1996, 110 Stat. 153, as amended, Pub. L. No. 107-110, January 8, 2002, 115 Stat. 2093, 47 U.S.C. § 157 note, unless otherwise noted.

2. Section 51.5 is amended by adding six new definitions in alphabetical order and by revising the definition of "state commission" to read as follows:

§ 51.5 Terms and Definitions.

*****

Commingling. Commingling means the connecting, attaching, or otherwise linking of an unbundled network element, or a combination of unbundled network elements, to one or more facilities or services that a requesting telecommunications carrier has obtained at wholesale from an incumbent LEC, or the combining of an unbundled network element, or a combination of unbundled network elements, with one or more such facilities or services. Commingle means the act of commingling.

*****

Enhanced extended link. An enhanced extended link or EEL consists of a combination of an unbundled loop and unbundled dedicated transport, together with any facilities, equipment, or functions necessary to combine those network elements.

*****

Intermodal. The term intermodal refers to facilities or technologies other than those found in traditional telephone networks, but that are utilized to provide competing services. Intermodal facilities or technologies include, but are not limited to, traditional or new cable plant, wireless technologies, and power line technologies.

*****

Non-qualifying service. A non-qualifying service is a service that is not a qualifying service.

*****

Qualifying service. A qualifying service is a telecommunications service that competes with a telecommunications service that has been traditionally the exclusive or primary domain of incumbent LECs, including, but not limited to, local exchange service, such as plain old telephone service, and access services, such as digital subscriber line services and high-capacity circuits.

*****

State commission. A state commission means the commission, board, or official (by whatever name designated) which under the laws of any state has regulatory jurisdiction with respect to intrastate operations of carriers. As referenced in this part, this term may include the Commission if it assumes responsibility for a proceeding or matter, pursuant to section 252(e)(5) of the Act or § 51.320. This term shall also include any person or persons to whom the state commission has delegated its authority under sections 251 and 252 of the Act and this part.

*****

Triennial Review Order. The Triennial Review Order means the Commission's Report and Order and Order on Remand and Further Notice of Proposed Rulemaking in CC Docket Nos. 01-338, 96-98, and 98-147.

*****

3. Section 51.301 is amended by revising paragraph (c)(8)(ii) to read as follows:

§ 51.301 Duty to negotiate.

*****

(c) ***

(8) ***

(ii) Refusal by an incumbent LEC to furnish cost data that would be relevant to setting rates if the parties were in arbitration.

4. Section 51.305 is amended by removing paragraph (a)(4), redesignating paragraph (a)(5) as paragraph (a)(4), and revising paragraph (a)(3) to read as follows:

§ 51.305 Interconnection.

(a) ***

(3) That is at a level of quality that is equal to that which the incumbent LEC provides itself, a subsidiary, an affiliate, or any other party. At a minimum, this requires an incumbent LEC to design interconnection facilities to meet the same technical criteria and service standards that are used within the incumbent LEC's network. This obligation is not limited to a consideration of service quality as perceived by end users, and includes, but is not limited to, service quality as perceived by the requesting telecommunications carrier; and

*****

5. Section 51.309 is amended by revising paragraphs (a) and (b), and by adding paragraphs (d) through (g) to read as follows:

§ 51.309 Use of unbundled network elements.

(a) Except as provided in § 51.318, an incumbent LEC shall not impose limitations, restrictions, or requirements on requests for, or the use of, unbundled network elements for the service a requesting telecommunications carrier seeks to offer.

(b) A requesting telecommunications carrier may not access an unbundled network element for the sole purpose of providing non-qualifying services.

*****

(d) A requesting telecommunications carrier that accesses and uses an unbundled network element pursuant to section 251(c)(3) of the Act and this part to provide a qualifying service may use the same unbundled network element to provide non-qualifying services.

(e) Except as provided in § 51.318, an incumbent LEC shall permit a requesting telecommunications carrier to commingle an unbundled network element or a combination of unbundled network elements with wholesale services obtained from an incumbent LEC.

(f) Upon request, an incumbent LEC shall perform the functions necessary to commingle an unbundled network element or a combination of unbundled network elements with one or more facilities or services that a requesting telecommunications carrier has obtained at wholesale from an incumbent LEC.

(g) An incumbent LEC shall not deny access to an unbundled network element or a combination of unbundled network elements on the grounds that one or more of the elements:

(1) Is connected to, attached to, linked to, or combined with, a facility or service obtained from an incumbent LEC; or

(2) Shares part of the incumbent LEC's network with access services or inputs for non-qualifying services.

6. Section 51.311 is amended by revising paragraphs (a) and (b), removing paragraph (c), redesignating paragraphs (d) and (e) as paragraphs (c) and (d) to read as follows:

§ 51.311 Nondiscriminatory access to unbundled network elements.

(a) The quality of an unbundled network element, as well as the quality of the access to the unbundled network element, that an incumbent LEC provides to a requesting telecommunications carrier shall be the same for all telecommunications carriers requesting access to that network element.

(b) To the extent technically feasible, the quality of an unbundled network element, as well as the quality of the access to such unbundled network element, that an incumbent LEC provides to a requesting telecommunications carrier shall be at least equal in quality to that which the incumbent LEC provides to itself. If an incumbent LEC fails to meet this requirement, the incumbent LEC must prove to the state commission that it is not technically feasible to provide the requested unbundled network element, or to provide access to the requested unbundled network element, at a level of quality that is equal to that which the incumbent LEC provides to itself.

*****

7. Section 51.315 is amended by revising paragraphs (c) and (f) to read as follows:

§ 51.315 Combination of unbundled network elements.

*****

(c) Upon request, an incumbent LEC shall perform the functions necessary to combine unbundled network elements in any manner, even if those elements are not ordinarily combined in the incumbent LEC's network, provided that such combination:

(1) Is technically feasible; and

(2) Would not undermine the ability of other carriers to obtain access to unbundled network elements or to interconnect with the incumbent LEC's network.

*****

(f) An incumbent LEC that denies a request to combine unbundled network elements pursuant to paragraph (c)(2) of this section must demonstrate to the state commission that the requested combination would undermine the ability of other carriers to obtain access to unbundled network elements or to interconnect with the incumbent LEC's network.

8. Section 51.316 is added to read as follows:

§ 51.316 Conversion of unbundled network elements and services.

(a) Upon request, an incumbent LEC shall convert a wholesale service, or group of wholesale services, to the equivalent unbundled network element, or combination of unbundled network elements, that is available to the requesting telecommunications carrier under section 251(c)(3) of the Act and this part.

(b) An incumbent LEC shall perform any conversion from a wholesale service or group of wholesale services to an unbundled network element or combination of unbundled network elements without adversely affecting the service quality perceived by the requesting telecommunications carrier's end-user customer.

(c) Except as agreed to by the parties, an incumbent LEC shall not impose any untariffed termination charges, or any disconnect fees, re-connect fees, or charges associated with establishing a service for the first time, in connection with any conversion between a wholesale service or group of wholesale services and an unbundled network element or combination of unbundled network elements.

9. Section 51.317 is revised to read as follows:

§ 51.317 Standards for requiring the unbundling of network elements.

Proprietary network elements. A network element shall be considered to be proprietary if an incumbent LEC can demonstrate that it has invested resources to develop proprietary information or functionalities that are protected by patent, copyright or trade secret law. The Commission shall undertake the following analysis to determine whether a proprietary network element should be made available for purposes of section 251(c)(3) of the Act:

(a) Determine whether access to the proprietary network element is "necessary." A network element is "necessary" if, taking into consideration the availability of alternative elements outside the incumbent LEC's network, including self-provisioning by a requesting telecommunications carrier or acquiring an alternative from a third-party supplier, lack of access to the network element precludes a requesting

telecommunications carrier from providing the services that it seeks to offer. If access is "necessary," the Commission may require the unbundling of such proprietary network element.

(b) In the event that such access is not "necessary," the Commission may require unbundling if it is determined that:

(1) The incumbent LEC has implemented only a minor modification to the network element in order to qualify for proprietary treatment;

(2) The information or functionality that is proprietary in nature does not differentiate the incumbent LEC's services from the requesting telecommunications carrier's services; or

(3) Lack of access to such element would jeopardize the goals of the Act.

10. Section 51.318 is added to read as follows:

§ 51.318 Eligibility criteria for access to certain unbundled network elements.

(a) Except as provided in paragraph (b) of this section, an incumbent LEC shall provide access to unbundled network elements and combinations of unbundled network elements without regard to whether the requesting telecommunications carrier seeks access to the elements to establish a new circuit or to convert an existing circuit from a service to unbundled network elements.

(b) An incumbent LEC need not provide access to an unbundled DS1 loop in combination, or commingled, with a dedicated DS1 transport or dedicated DS3 transport facility or service, or to an unbundled DS3 loop in combination, or commingled, with a dedicated DS3 transport facility or service, unless the requesting telecommunications carrier certifies that all of the following conditions are met:

(1) The requesting telecommunications carrier has received state certification to provide local voice service in the area being served or, in the absence of a state certification requirement, has complied with registration, tariffing, filing fee, or other regulatory requirements applicable to the provision of local voice service in that area.

(2) The following criteria are satisfied for each combined circuit, including each DS1 circuit, each DS1 enhanced extended link, and each DS1-equivalent circuit on a DS3 enhanced extended link:

(i) Each circuit to be provided to each customer will be assigned a local number prior to the provision of service over that circuit;

(ii) Each DS1-equivalent circuit on a DS3 enhanced extended link must have its

own local number assignment, so that each DS3 must have at least 28 local voice numbers assigned to it;

(iii) Each circuit to be provided to each customer will have 911 or E911 capability prior to the provision of service over that circuit;

(iv) Each circuit to be provided to each customer will terminate in a collocation arrangement that meets the requirements of paragraph (c) of this section;

(v) Each circuit to be provided to each customer will be served by an interconnection trunk that meets the requirements of paragraph (d) of this section;

(vi) For each 24 DS1 enhanced extended links or other facilities having equivalent capacity, the requesting telecommunications carrier will have at least one active DS1 local service interconnection trunk that meets the requirements of paragraph (d) of this section; and

(vii) Each circuit to be provided to each customer will be served by a switch capable of switching local voice traffic.

(c) A collocation arrangement meets the requirements of this paragraph if it is:

(1) Established pursuant to section 251(c)(6) of the Act and located at an incumbent LEC premises within the same LATA as the customer's premises, when the incumbent LEC is not the collocator; and

(2) Located at a third party's premises within the same LATA as the customer's premises, when the incumbent LEC is the collocator.

(d) An interconnection trunk meets the requirements of this paragraph if the requesting telecommunications carrier will transmit the calling party's number in connection with calls exchanged over the trunk.

10. Section 51.319 is revised to read as follows:

§ 51.319 Specific unbundling requirements.

(a) Local loops. An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to the local loop on an unbundled basis, in accordance with section 251(c)(3) of the Act and this part and as set forth in paragraphs (a)(1) through (a)(9) of this section. The local loop network element is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises. This element includes all features,

functions, and capabilities of such transmission facility, including the network interface device. It also includes all electronics, optronics, and intermediate devices (including repeaters and load coils) used to establish the transmission path to the end-user customer premises as well as any inside wire owned or controlled by the incumbent LEC that is part of that transmission path.

(1) Copper loops. An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to the copper loop on an unbundled basis. A copper loop is a stand-alone local loop comprised entirely of copper wire or cable. Copper loops include two-wire and four-wire analog voice-grade copper loops, digital copper loops (*e.g.*, DS0s and integrated services digital network lines), as well as two-wire and four-wire copper loops conditioned to transmit the digital signals needed to provide digital subscriber line services, regardless of whether the copper loops are in service or held as spares. The copper loop includes attached electronics using time division multiplexing technology, but does not include packet switching capabilities as defined in paragraph (a)(2)(i) of this section. The availability of DS1 and DS3 copper loops is subject to the requirements of paragraphs (a)(4) and (a)(5) of this section.

(i) Line sharing. Beginning on the effective date of the Commission's Triennial Review Order, the high frequency portion of a copper loop shall no longer be required to be provided as an unbundled network element, subject to the transitional line sharing conditions in paragraphs (a)(1)(i)(A) and (a)(1)(i)(B) of this section. Line sharing is the process by which a requesting telecommunications carrier provides digital subscriber line service over the same copper loop that the incumbent LEC uses to provide voice service, with the incumbent LEC using the low frequency portion of the loop and the requesting telecommunications carrier using the high frequency portion of the loop. The high frequency portion of the loop consists of the frequency range on the copper loop above the range that carries analog circuit-switched voice transmissions. This portion of the loop includes the features, functions, and capabilities of the loop that are used to establish a complete transmission path on the high frequency range between the incumbent LEC's distribution frame (or its equivalent) in its central office and the demarcation point at the end-user customer premises, and includes the high frequency portion of any inside wire owned or controlled by the incumbent LEC.

(A) Line sharing customers before the effective date of the Commission's Triennial Review Order. An incumbent LEC shall provide a requesting telecommunications carrier with the ability to engage in line sharing over a copper loop where, prior to the effective date of the Commission's Triennial Review Order, the requesting telecommunications carrier began providing digital subscriber line service to a particular end-user customer and has not ceased providing digital subscriber line service to that customer. Until such end-user customer cancels or otherwise discontinues its subscription to the digital subscriber line service of the requesting telecommunications carrier, or its successor or assign, an incumbent LEC shall continue to provide access to the high frequency portion of the loop at the same rate that the incumbent LEC charged for such access prior to the effective date of the Commission's Triennial

Review Order.

(B) Line sharing customers on or after the effective date of the Commission's Triennial Review Order. An incumbent LEC shall provide a requesting telecommunications carrier with the ability to engage in line sharing over a copper loop, between the effective date of the Commission's Triennial Review Order and three years after that effective date, where the requesting telecommunications carrier began providing digital subscriber line service to a particular end-user customer on or before the date one year after that effective date. Beginning three years after the effective date of the Commission's Triennial Review Order, the incumbent LEC is no longer required to provide a requesting telecommunications carrier with the ability to engage in line sharing for this end-user customer or any new end-user customer. Between the effective date of the Commission's Triennial Review Order and three years after that effective date, an incumbent LEC shall provide a requesting telecommunications carrier with access to the high frequency portion of a copper loop in order to serve line sharing customers obtained between the effective date of the Commission's Triennial Review Order and one year after that effective date in the following manner:

(1) During the first year following the effective date of the Commission's Triennial Review Order, the incumbent LEC shall provide access to the high frequency portion of a copper loop at 25 percent of the state-approved monthly recurring rate, or 25 percent of the monthly recurring rate set forth in the incumbent LEC's and requesting telecommunications carrier's interconnection agreement, for access to a copper loop in effect on that date.

(2) Beginning one year plus one day after the effective date of the Commission's Triennial Review Order until two years after that effective date, the incumbent LEC shall provide access to the high frequency portion of a copper loop at 50 percent of the state-approved monthly recurring rate, or 50 percent of the monthly recurring rate set forth in the incumbent LEC's and requesting telecommunications carrier's interconnection agreement, for access to a copper loop in effect on the effective date of the Commission's Triennial Review Order.

(3) Beginning two years plus one day after effective date of the Commission's Triennial Review Order until three years after that effective date, the incumbent LEC shall provide access to the high frequency portion of a copper loop at 75 percent of the state-approved monthly recurring rate, or 75 percent of the monthly recurring rate set forth in the incumbent LEC's and requesting telecommunications carrier's interconnection agreement, for access to a copper loop in effect on the effective date of the Commission's Triennial Review Order.

(ii) Line splitting. An incumbent LEC shall provide a requesting telecommunications carrier that obtains an unbundled copper loop from the incumbent LEC with the ability to engage in line splitting arrangements with another competitive LEC using a splitter collocated at the central office where the loop terminates into a distribution frame or its equivalent. Line splitting is the process in which one competitive LEC provides narrowband voice service over the low frequency portion of a copper loop and a second competitive LEC provides digital subscriber line service over the high frequency portion of that same loop.

(A) An incumbent LEC's obligation, under paragraph (a)(1)(ii) of this section, to provide a requesting telecommunications carrier with the ability to engage in line splitting applies regardless of whether the carrier providing voice service provides its own switching or obtains local circuit switching as an unbundled network element pursuant to paragraph (d) of this section.

(B) An incumbent LEC must make all necessary network modifications, including providing nondiscriminatory access to operations support systems necessary for pre-ordering, ordering, provisioning, maintenance and repair, and billing for loops used in line splitting arrangements.

(iii) Line conditioning. The incumbent LEC shall condition a copper loop at the request of the carrier seeking access to a copper loop under paragraph (a)(1) of this section, the high frequency portion of a copper loop under paragraph (a)(1)(i) of this section, or a copper subloop under paragraph (b) of this section to ensure that the copper loop or copper subloop is suitable for providing digital subscriber line services, including those provided over the high frequency portion of the copper loop or copper subloop, whether or not the incumbent LEC offers advanced services to the end-user customer on that copper loop or copper subloop. If the incumbent LEC seeks compensation from the requesting telecommunications carrier for line conditioning, the requesting telecommunications carrier has the option of refusing, in whole or in part, to have the line conditioned; and a requesting telecommunications carrier's refusal of some or all aspects of line conditioning will not diminish any right it may have, under paragraphs (a) and (b) of this section, to access the copper loop, the high frequency portion of the copper loop, or the copper subloop.

(A) Line conditioning is defined as the removal from a copper loop or copper subloop of any device that could diminish the capability of the loop or subloop to deliver high-speed switched wireline telecommunications capability, including digital subscriber line service. Such devices include, but are not limited to, bridge taps, load coils, low pass filters, and range extenders.

(B) Incumbent LECs shall recover the costs of line conditioning from the requesting telecommunications carrier in accordance with the Commission's forward-looking pricing principles promulgated pursuant to section 252(d)(1) of the Act and in compliance with rules governing nonrecurring costs in § 51.507(e).

(C) Insofar as it is technically feasible, the incumbent LEC shall test and report troubles for all the features, functions, and capabilities of conditioned copper lines, and may not restrict its testing to voice transmission only.

(D) Where the requesting telecommunications carrier is seeking access to the high frequency portion of a copper loop or copper subloop pursuant to paragraphs (a) or (b) of this section and the incumbent LEC claims that conditioning that loop or subloop will significantly degrade, as defined in § 51.233, the voiceband services that the incumbent LEC is currently providing over that loop or subloop, the incumbent LEC must either:

(1) Locate another copper loop or copper subloop that has been or can be conditioned, migrate the incumbent LEC's voiceband service to that loop or subloop, and provide the requesting telecommunications carrier with access to the high frequency portion of that alternative loop or subloop; or

(2) Make a showing to the state commission that the original copper loop or copper subloop cannot be conditioned without significantly degrading voiceband services on that loop or subloop, as defined in § 51.233, and that there is no adjacent or alternative copper loop or copper subloop available that can be conditioned or to which the end-user customer's voiceband service can be moved to enable line sharing.

(E) If, after evaluating the incumbent LEC's showing under paragraph (a)(1)(iii)(D)(2) of this section, the state commission concludes that a copper loop or copper subloop cannot be conditioned without significantly degrading the voiceband service, the incumbent LEC cannot then or subsequently condition that loop or subloop to provide advanced services to its own customers without first making available to any requesting telecommunications carrier the high frequency portion of the newly conditioned loop or subloop.

(iv) Maintenance, repair, and testing. (A) An incumbent LEC shall provide, on a nondiscriminatory basis, physical loop test access points to a requesting telecommunications carrier at the splitter, through a cross-connection to the requesting telecommunications carrier's collocation space, or through a standardized interface, such as an intermediate distribution frame or a test access server, for the purpose of testing, maintaining, and repairing copper loops and copper subloops.

(B) An incumbent LEC seeking to utilize an alternative physical access methodology may request approval to do so from the state commission, but must show that the proposed alternative method is reasonable and nondiscriminatory, and will not disadvantage a requesting telecommunications carrier's ability to perform loop or service testing, maintenance, or repair.

(v) Control of the loop and splitter functionality. In situations where a requesting telecommunications carrier is obtaining access to the high frequency portion of a copper loop either through a line sharing or line splitting arrangement, the incumbent LEC may maintain control over the loop and splitter equipment and functions, and shall provide to the requesting telecommunications carrier loop and splitter functionality that is compatible with any transmission technology that the requesting telecommunications carrier seeks to deploy using the high frequency portion of the loop, as defined in paragraph (a)(1)(i) of this section, provided that such transmission technology is presumed to be deployable pursuant to § 51.230.

(2) Hybrid loops. A hybrid loop is a local loop composed of both fiber optic cable, usually in the feeder plant, and copper wire or cable, usually in the distribution plant.

(i) Packet switching facilities, features, functions, and capabilities. An incumbent LEC is not required to provide unbundled access to the packet switched features, functions and capabilities of its hybrid loops. Packet switching capability is the routing or forwarding of packets, frames, cells, or other data units based on address or other routing information contained in the packets, frames, cells or other data units, and the functions that are performed by the digital subscriber line access multiplexers, including but not limited to the ability to terminate an end-user customer's copper loop (which includes both a low-band voice channel and a high-band data channel, or solely a data channel); the ability to forward the voice channels, if present, to a circuit switch or multiple circuit switches; the ability to extract data units from the data channels on the loops; and the ability to combine data units from multiple loops onto one or more trunks connecting to a packet switch or packet switches.

(ii) Broadband services. When a requesting telecommunications carrier seeks access to a hybrid loop for the provision of broadband services, an incumbent LEC shall provide the requesting telecommunications carrier with nondiscriminatory access to the time division multiplexing features, functions, and capabilities of that hybrid loop, including DS1 or DS3 capacity (where impairment has been found to exist), on an unbundled basis to establish a complete transmission path between the incumbent LEC's central office and an end user's customer premises. This access shall include access to all features, functions, and capabilities of the hybrid loop that are not used to transmit packetized information.

(iii) Narrowband services. When a requesting telecommunications carrier seeks access to a hybrid loop for the provision of narrowband services, the incumbent LEC may either:

(A) Provide nondiscriminatory access, on an unbundled basis, to an entire hybrid loop capable of voice-grade service (*i.e.*, equivalent to DS0 capacity), using time division multiplexing technology; or

(B) Provide nondiscriminatory access to a spare home-run copper loop serving that customer on an unbundled basis.

(3) Fiber-to-the-home loops. A fiber-to-the-home loop is a local loop consisting entirely of fiber optic cable, whether dark or lit, and serving a residential end user's customer premises.

(i) New builds. An incumbent LEC is not required to provide nondiscriminatory access to a fiber-to-the-home loop on an unbundled basis when the incumbent LEC deploys such a loop to a residential unit that previously has not been served by any loop facility.

(ii) Overbuilds. An incumbent LEC is not required to provide nondiscriminatory access to a fiber-to-the-home loop on an unbundled basis when the incumbent LEC has deployed such a loop parallel to, or in replacement of, an existing copper loop facility, except that:

(A) The incumbent LEC must maintain the existing copper loop connected to the particular customer premises after deploying the fiber-to-the-home loop and provide nondiscriminatory access to that copper loop on an unbundled basis unless the incumbent LEC retires the copper loop pursuant to paragraph (a)(3)(iii) of this section.

(B) An incumbent LEC that maintains the existing copper loop pursuant to paragraph (a)(3)(ii)(A) of this section need not incur any expenses to ensure that the existing copper loop remains capable of transmitting signals prior to receiving a request for access pursuant to that paragraph, in which case the incumbent LEC shall restore the copper loop to serviceable condition upon request.

(C) An incumbent LEC that retires the copper loop pursuant to paragraph (a)(3)(iii) of this section shall provide nondiscriminatory access to a 64 kilobits per second transmission path capable of voice grade service over the fiber-to-the-home loop on an unbundled basis.

(iii) Retirement of copper loops or copper subloops. Prior to retiring any copper loop or copper subloop that has been replaced with a fiber-to-the-home loop, an incumbent LEC must comply with:

(A) The network disclosure requirements set forth in section 251(c)(5) of the Act and in § 51.325 through § 51.335; and

(B) Any applicable state requirements.

(4) DS1 loops. (i) An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to a DS1 loop on an unbundled basis except where the state commission has found, through application of the competitive wholesale facilities trigger in

paragraph (a)(4)(ii) of this section, that requesting telecommunications carriers are not impaired without access to a DS1 loop at a specific customer location. A DS1 loop is a digital local loop having a total digital signal speed of 1.544 megabytes per second. DS1 loops include, but are not limited to, two-wire and four-wire copper loops capable of providing high-bit rate digital subscriber line services, including T1 services.

(ii) Competitive wholesale facilities trigger for DS1 loops. A state commission shall find that a requesting telecommunications carrier is not impaired without access to a DS1 loop at a specific customer location where two or more competing providers not affiliated with each other or with the incumbent LEC, including intermodal providers of service comparable in quality to that of the incumbent LEC, each satisfy the conditions in paragraphs (a)(4)(ii)(A) and (a)(4)(ii)(B) of this section:

(A) The competing provider has deployed its own DS1 facilities, and offers a DS1 loop over its own facilities on a widely available wholesale basis to other carriers desiring to serve customers at that location. For purposes of this paragraph, the competing provider's DS1 facilities may use dark fiber facilities that the competing provider has obtained on an unbundled, leased, or purchased basis if it has attached its own optronics to activate the fiber.

(B) The competing provider has access to the entire customer location, including each individual unit within that location.

(5) DS3 loops. Subject to the cap in paragraph (a)(5)(iii), an incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to a DS3 loop on an unbundled basis except where the state commission has found, through application of either paragraph (a)(5)(i) of this section or the potential deployment analysis in paragraph (a)(5)(ii) of this section, that requesting telecommunications carriers are not impaired without access to a DS3 loop at a specific customer location. A DS3 loop is a digital local loop having a total digital signal speed of 44.736 megabytes per second.

(i) Triggers for DS3 loops. A state commission shall find that a requesting telecommunications carrier is not impaired without access to unbundled DS3 loops at a specific customer location where two or more competing providers not affiliated with each other or with the incumbent LEC, including intermodal providers of service comparable in quality to that of the incumbent LEC, satisfy either paragraph (a)(5)(i)(A) or paragraph (a)(5)(i)(B) of this section:

(A) Self-provisioning trigger for DS3 loops. To satisfy this trigger, a state commission must find that each competing provider has either deployed its own DS3 facilities at that specific customer location and is serving customers via those facilities at that location, or has deployed DS3 facilities by attaching its own optronics to activate dark fiber transmission facilities obtained under a long-term indefeasible right of use and is serving customers via those facilities at that location.

(B) Competitive wholesale facilities trigger for DS3 loops. To satisfy this trigger, a state commission must find that each competing provider satisfies the conditions in paragraphs (a)(5)(i)(B)(1) and (a)(5)(i)(B)(2) of this section.

(1) The competing provider has deployed its own DS3 facilities, and offers a DS3 loop over its own facilities on a widely available wholesale basis to other competing providers seeking to serve customers at the specific customer location. For purposes of this paragraph, the competing provider's DS3 facilities may use dark fiber facilities that the competing provider has obtained on an unbundled, leased, or purchased basis if it has attached its own optronics to activate the fiber.

(2) The competing provider has access to the entire customer location, including each individual unit within that location.

(ii) Potential deployment of DS3 loops. Where neither trigger in paragraph (a)(5)(i) of this section is satisfied, a state commission shall consider whether other evidence shows that a requesting telecommunications carrier is not impaired without access to an unbundled DS3 loop at a specific customer location. To make this determination, a state must consider the following factors: evidence of alternative loop deployment at that location; local engineering costs of building and utilizing transmission facilities; the cost of underground or aerial laying of fiber or copper; the cost of equipment needed for transmission; installation and other necessary costs involved in setting up service; local topography such as hills and rivers; availability of reasonable access to rights-of-way; building access restrictions/costs; and availability/feasibility of similar quality/reliability alternative transmission technologies at that particular location.

(iii) Cap on unbundled DS3 circuits. A requesting telecommunications carrier may obtain a maximum of two unbundled DS3 loops for any single customer location where DS3 loops are available as unbundled loops.

(6) Dark fiber loops. An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to a dark fiber loop on an unbundled basis except where a state commission has found, through application of the self-provisioning trigger in paragraph (a)(6)(i) of this section or the potential deployment analysis in paragraph (a)(6)(ii) of this section, that requesting telecommunications carriers are not impaired without access to a dark fiber loop at a specific customer location. Dark fiber is fiber within an existing fiber optic cable that has not yet been activated through optronics to render it capable of carrying communications services.

(i) Self-provisioning trigger for dark fiber loops. A state commission shall find that a requesting telecommunications carrier is not impaired without access to a dark fiber loop at a specific customer location where two or more competing providers not affiliated with each other or with the incumbent LEC, have deployed their own dark

fiber facilities at that specific customer location. For purposes of making this determination, a competing provider that has obtained those dark fiber facilities under a long-term indefeasible right of use shall be considered a competing provider with its own dark fiber facilities. Dark fiber purchased on an unbundled basis from the incumbent LEC shall not be considered under this paragraph.

(ii) Potential deployment of dark fiber loops. Where the trigger in paragraph (a)(6)(i) of this section is not satisfied, a state commission shall consider whether other evidence shows that a requesting telecommunications carrier is not impaired without access to an unbundled dark fiber loop at a specific customer location. To make this determination, a state must consider the following factors: evidence of alternative loop deployment at that location; local engineering costs of building and utilizing transmission facilities; the cost of underground or aerial laying of fiber; the cost of equipment needed for transmission; installation and other necessary costs involved in setting up service; local topography such as hills and rivers; availability of reasonable access to rights-of-way; building access restrictions/costs; and availability/feasibility of similar quality/reliability alternative transmission technologies at that particular location.

(7) State commission proceedings. A state commission shall complete the proceedings necessary to satisfy the requirements in paragraphs (a)(4), (a)(5), and (a)(6) of this section in accordance with paragraphs (a)(7)(i) and (a)(7)(ii) of this section.

(i) Initial review. A state commission shall complete any initial review applying the triggers and criteria in paragraphs (a)(4), (a)(5), and (a)(6) of this section within nine months from the effective date of the Commission's Triennial Review Order.

(ii) Continuing review. A state commission shall complete any subsequent review applying these triggers and criteria within six months of the filing of a petition or other pleading to conduct such a review.

(8) Routine network modifications. (i) An incumbent LEC shall make all routine network modifications to unbundled loop facilities used by requesting telecommunications carriers where the requested loop facility has already been constructed. An incumbent LEC shall perform these routine network modifications to unbundled loop facilities in a nondiscriminatory fashion, without regard to whether the loop facility being accessed was constructed on behalf, or in accordance with the specifications, of any carrier.

(ii) A routine network modification is an activity that the incumbent LEC regularly undertakes for its own customers. Routine network modifications include, but are not limited to, rearranging or splicing of cable; adding an equipment case; adding a doubler or repeater; adding a smart jack; installing a repeater shelf; adding a line card; deploying a new multiplexer or reconfiguring an existing multiplexer; and attaching electronic and other equipment that the incumbent LEC ordinarily attaches to a DS1 loop to activate such loop for its own customer. They also include activities needed to enable a requesting telecommunications carrier to obtain access to a dark fiber loop. Routine

network modifications may entail activities such as accessing manholes, deploying bucket trucks to reach aerial cable, and installing equipment casings. Routine network modifications do not include the construction of a new loop, or the installation of new aerial or buried cable for a requesting telecommunications carrier.

(9) Engineering policies, practices, and procedures. An incumbent LEC shall not engineer the transmission capabilities of its network in a manner, or engage in any policy, practice, or procedure, that disrupts or degrades access to a local loop or subloop, including the time division multiplexing-based features, functions, and capabilities of a hybrid loop, for which a requesting telecommunications carrier may obtain or has obtained access pursuant to paragraph (a) of this section.

(b) Subloops. An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to subloops on an unbundled basis in accordance with section 251(c)(3) of the Act and this part and as set forth in paragraph (b) of this section.

(1) Copper subloops. An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to a copper subloop on an unbundled basis. A copper subloop is a portion of a copper loop, or hybrid loop, comprised entirely of copper wire or copper cable that acts as a transmission facility between any point of technically feasible access in an incumbent LEC's outside plant, including inside wire owned or controlled by the incumbent LEC, and the end-user customer premises. A copper subloop includes all intermediate devices (including repeaters and load coils) used to establish a transmission path between a point of technically feasible access and the demarcation point at the end-user customer premises, and includes the features, functions, and capabilities of the copper loop. Copper subloops include two-wire and four-wire analog voice-grade subloops as well as two-wire and four-wire subloops conditioned to transmit the digital signals needed to provide digital subscriber line services, regardless of whether the subloops are in service or held as spares.

(i) Point of technically feasible access. A point of technically feasible access is any point in the incumbent LEC's outside plant where a technician can access the copper wire within a cable without removing a splice case. Such points include, but are not limited to, a pole or pedestal, the serving area interface, the network interface device, the minimum point of entry, any remote terminal, and the feeder/distribution interface. An incumbent LEC shall, upon a site-specific request, provide access to a copper subloop at a splice near a remote terminal. The incumbent LEC shall be compensated for providing this access in accordance with §§ 51.501 through 51.515.

(ii) Rules for collocation. Access to the copper subloop is subject to the Commission's collocation rules at §§ 51.321 and 51.323.

(2) Subloops for access to multiunit premises wiring. An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to the subloop for access to multiunit premises wiring on an unbundled basis regardless of the capacity level or

type of loop that the requesting telecommunications carrier seeks to provision for its customer. The subloop for access to multiunit premises wiring is defined as any portion of the loop that it is technically feasible to access at a terminal in the incumbent LEC's outside plant at or near a multiunit premises. One category of this subloop is inside wire, which is defined for purposes of this section as all loop plant owned or controlled by the incumbent LEC at a multiunit customer premises between the minimum point of entry as defined in § 68.105 of this chapter and the point of demarcation of the incumbent LEC's network as defined in § 68.3 of this chapter.

(i) Point of technically feasible access. A point of technically feasible access is any point in the incumbent LEC's outside plant at or near a multiunit premises where a technician can access the wire or fiber within the cable without removing a splice case to reach the wire or fiber within to access the wiring in the multiunit premises. Such points include, but are not limited to, a pole or pedestal, the network interface device, the minimum point of entry, the single point of interconnection, and the feeder/distribution interface.

(ii) Single point of interconnection. Upon notification by a requesting telecommunications carrier that it requests interconnection at a multiunit premises where the incumbent LEC owns, controls, or leases wiring, the incumbent LEC shall provide a single point of interconnection that is suitable for use by multiple carriers. This obligation is in addition to the incumbent LEC's obligations, under paragraph (b)(2) of this section, to provide nondiscriminatory access to a subloop for access to multiunit premises wiring, including any inside wire, at any technically feasible point. If the parties are unable to negotiate rates, terms, and conditions under which the incumbent LEC will provide this single point of interconnection, then any issues in dispute regarding this obligation shall be resolved in state proceedings under section 252 of the Act.

(3) Other subloop provisions. (i) Technical feasibility. If parties are unable to reach agreement through voluntary negotiations as to whether it is technically feasible, or whether sufficient space is available, to unbundle a copper subloop or subloop for access to multiunit premises wiring at the point where a telecommunications carrier requests, the incumbent LEC shall have the burden of demonstrating to the state commission, in state proceedings under section 252 of the Act, that there is not sufficient space available, or that it is not technically feasible to unbundle the subloop at the point requested.

(ii) Best practices. Once one state commission has determined that it is technically feasible to unbundle subloops at a designated point, an incumbent LEC in any state shall have the burden of demonstrating to the state commission, in state proceedings under section 252 of the Act, that it is not technically feasible, or that sufficient space is not available, to unbundle its own loops at such a point.

(c) Network interface device. Apart from its obligation to provide the network interface device functionality as part of an unbundled loop or subloop, an incumbent LEC also shall provide

nondiscriminatory access to the network interface device on an unbundled basis, in accordance with section 251(c)(3) of the Act and this part. The network interface device element is a stand-alone network element and is defined as any means of interconnection of customer premises wiring to the incumbent LEC's distribution plant, such as a cross-connect device used for that purpose. An incumbent LEC shall permit a requesting telecommunications carrier to connect its own loop facilities to on-premises wiring through the incumbent LEC's network interface device, or at any other technically feasible point.

(d) Local circuit switching. An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to local circuit switching, including tandem switching, on an unbundled basis, in accordance with section 251(c)(3) of the Act and this part and as set forth in paragraph (d) of this section.

(1) Definition. Local circuit switching is defined as follows:

(i) Local circuit switching encompasses all line-side and trunk-side facilities, plus the features, functions, and capabilities of the switch. The features, functions, and capabilities of the switch shall include the basic switching function of connecting lines to lines, lines to trunks, trunks to lines, and trunks to trunks.

(ii) Local circuit switching includes all vertical features that the switch is capable of providing, including custom calling, custom local area signaling services features, and Centrex, as well as any technically feasible customized routing functions.

(2) DS0 capacity (*i.e.*, mass market) determinations. An incumbent LEC shall provide access to local circuit switching on an unbundled basis to a requesting telecommunications carrier serving end users using DS0 capacity loops except where the state commission has found, in accordance with the conditions set forth in paragraph (d)(2) of this section, that requesting telecommunications carriers are not impaired in a particular market, or where the state commission has found that all such impairment would be cured by implementation of transitional unbundled local circuit switching in a given market and has implemented such transitional access as set forth in paragraph (d)(2)(iii)(C) of this section.

(i) Market definition. A state commission shall define the markets in which it will evaluate impairment by determining the relevant geographic area to include in each market. In defining markets, a state commission shall take into consideration the locations of mass market customers actually being served (if any) by competitors, the variation in factors affecting competitors' ability to serve each group of customers, and competitors' ability to target and serve specific markets profitably and efficiently using currently available technologies. A state commission shall not define the relevant geographic area as the entire state.

(ii) Batch cut process. In each of the markets that the state commission defines

pursuant to paragraph (d)(2)(i) of this section, the state commission shall either establish an incumbent LEC batch cut process as set forth in paragraph (d)(2)(ii)(A) of this section or issue detailed findings explaining why such a batch process is unnecessary, as set forth in paragraph (d)(2)(ii)(B) of this section. A batch cut process is defined as a process by which the incumbent LEC simultaneously migrates two or more loops from one carrier's local circuit switch to another carrier's local circuit switch, giving rise to operational and economic efficiencies not available when migrating loops from one carrier's local circuit switch to another carrier's local circuit switch on a line-by-line basis.

(A) A state commission shall establish an incumbent LEC batch cut process for use in migrating lines served by one carrier's local circuit switch to lines served by another carrier's local circuit switch in each of the markets the state commission has defined pursuant to paragraph (d)(2)(i) of this section. In establishing the incumbent LEC batch cut process:

(1) A state commission shall first determine the appropriate volume of loops that should be included in the "batch."

(2) A state commission shall adopt specific processes to be employed when performing a batch cut, taking into account the incumbent LEC's particular network design and cut over practices.

(3) A state commission shall evaluate whether the incumbent LEC is capable of migrating multiple lines served using unbundled local circuit switching to switches operated by a carrier other than the incumbent LEC for any requesting telecommunications carrier in a timely manner, and may require that incumbent LECs comply with an average completion interval metric for provision of high volumes of loops.

(4) A state commission shall adopt rates for the batch cut activities it approves in accordance with the Commission's pricing rules for unbundled network elements. These rates shall reflect the efficiencies associated with batched migration of loops to a requesting telecommunications carrier's switch, either through a reduced per-line rate or through volume discounts as appropriate.

(B) If a state commission concludes that the absence of a batch cut migration process is not impairing requesting telecommunications carriers' ability to serve end users using DS0 loops in the mass market without access to local circuit switching on an unbundled basis, that conclusion will render the creation of such a process unnecessary. In such cases, the state commission shall issue detailed findings regarding the

volume of unbundled loop migrations that could be expected if requesting telecommunications carriers were no longer entitled to local circuit switching on an unbundled basis, the ability of the incumbent LEC to meet that demand in a timely and efficient manner using its existing hot cut process, and the non-recurring costs associated with that hot cut process. The state commission further shall explain why these findings indicate that the absence of a batch cut process does not give rise to impairment in the market at issue.

(iii) State commission analysis. To determine whether requesting telecommunications carriers are impaired without access to local circuit switching on an unbundled basis, a state commission shall perform the inquiry set forth in paragraphs (d)(2)(iii)(A) through (d)(2)(iii)(C) of this section:

(A) Local switching triggers. A state commission shall find that a requesting telecommunications carrier is not impaired without access to local circuit switching on an unbundled basis in a particular market where either the self-provisioning trigger set forth in paragraph (d)(2)(iii)(A)(1) of this section or the competitive wholesale facilities trigger set forth in paragraph (d)(2)(iii)(A)(2) of this section is satisfied.

(1) Local switching self-provisioning trigger. To satisfy this trigger, a state commission must find that three or more competing providers not affiliated with each other or the incumbent LEC, including intermodal providers of service comparable in quality to that of the incumbent LEC, each are serving mass market customers in the particular market with the use of their own local circuit switches.

(2) Local switching competitive wholesale facilities trigger. To satisfy this trigger, a state commission must find that two or more competing providers not affiliated with each other or the incumbent LEC, including intermodal providers of service comparable in quality to that of the incumbent LEC, each offer wholesale local circuit switching service to customers serving DS0 capacity loops in that market using their own switches.

(B) Additional state authority. If neither of the triggers described in paragraph (d)(2)(iii)(A) of this section has been satisfied, the state commission shall find that requesting telecommunications carriers are not impaired without access to unbundled local circuit switching in a particular market where the state commission determines that self-provisioning of local switching is economic based on the following criteria:

(1) Evidence of actual deployment. The state commission shall consider whether switches actually deployed in the market at issue permit competitive entry in the absence of unbundled local circuit switching. Specifically, the state commission shall examine whether, in the market at issue, there are either two wholesale providers or three self-provisioners of local switching not affiliated with each other or the incumbent LEC, serving end users using DS1 or higher capacity loops in the market at issue; or there is any carrier, including any intermodal provider of service comparable in quality to that of the incumbent LEC, using a self-provisioned switch to serve end users using DS0 capacity loops. If so, and if the state commission determines that the switch or switches identified can be used to serve end users using DS0 capacity loops in that market in an economic fashion, this evidence must be given substantial weight.

(2) Operational barriers. The state commission also shall examine the role of potential operational barriers in determining whether to find "no impairment" in a given market. Specifically, the state commission shall examine whether the incumbent LEC's performance in provisioning loops, difficulties in obtaining collocation space due to lack of space or delays in provisioning by the incumbent LEC, or difficulties in obtaining cross-connects in an incumbent LEC's wire center render entry uneconomic for requesting telecommunications carriers in the absence of unbundled access to local circuit switching.

(3) Economic barriers. The state commission shall also examine the role of potential economic barriers in determining whether to find "no impairment" in a given market. Specifically, the state commission shall examine whether the costs of migrating incumbent LEC loops to requesting telecommunications carriers' switches or the costs of backhauling voice circuits to requesting telecommunications carriers' switches from the end offices serving their end users render entry uneconomic for requesting telecommunications carriers.

(4) Multi-line DS0 end users. As part of the economic analysis set forth in paragraph (d)(2)(iii)(B)(3) of this section, the state commission shall establish a maximum number of DS0 loops for each geographic market that requesting telecommunications carriers can serve through unbundled switching when serving multiline end users at a single location. Specifically, in establishing this "cutoff," the state commission shall take into account the point at which the increased revenue opportunity at a

single location is sufficient to overcome impairment and the point at which multiline end users could be served in an economic fashion by higher capacity loops and a carrier's own switching and thus be considered part of the DS1 enterprise market.

(C) Transitional use of unbundled switching. If the triggers described in paragraph (d)(2)(iii)(A) of this section have not been satisfied with regard to a particular market and the analysis described in paragraph (d)(2)(iii)(B) of this section has resulted in a finding that requesting telecommunications carriers are impaired without access to local circuit switching on an unbundled basis in that market, the state commission shall consider whether any impairment would be cured by transitional ("rolling") access to local circuit switching on an unbundled basis for a period of 90 days or more. "Rolling" access means the use of unbundled local circuit switching for a limited period of time for each end-user customer to whom a requesting telecommunications carrier seeks to provide service. If the state commission determines that transitional access to unbundled local circuit switching would cure any impairment, it shall require incumbent LECs to make unbundled local circuit switching available to requesting telecommunications carriers for 90 days or more, as specified by the state commission. The time limit set by the commission shall apply to each request for access to unbundled local circuit switching by a requesting telecommunications carrier on a per customer basis.

(iv) DS0 capacity end-user transition. If a state commission finds that no impairment exists in a market or that any impairment could be cured by transitional access to unbundled local circuit switching, all requesting telecommunications carriers in that market shall commit to an implementation plan with the incumbent LEC for the migration of the embedded unbundled switching mass market customer base within 2 months of the state commission determination. A requesting telecommunications carrier may no longer obtain access to unbundled local circuit switching 5 months after the state commission determination, except, where applicable, on a transitional basis as described in paragraph (d)(2)(iii)(C) of this section.

(A) Transition timeline. Each requesting telecommunications carrier shall submit the orders necessary to migrate its embedded base of end-user customers off of the unbundled local circuit switching element in accordance with the following timetable, measured from the day of the state commission determination. For purposes of calculating the number of customers who must be migrated, the embedded base of customers shall include all customers served using unbundled switching that are not customers being served with transitional unbundled switching pursuant to paragraph (d)(3)(iii)(C) of this section.

(1) Month 13: Each requesting telecommunications carrier must submit orders for one-third of all its unbundled local circuit switching end-user customers;

(2) Month 20: Each requesting telecommunications carrier must submit orders for half of its remaining unbundled local circuit switching end-user customers, as calculated pursuant to paragraph (d)(2)(iv)(A)(1) of this section; and

(3) Month 27: Each requesting telecommunications carrier must submit orders for its remaining unbundled local circuit switching end-user customers.

(B) Operational aspects of the migration. Requesting telecommunications carriers and the incumbent LEC shall jointly submit the details of their implementation plans for each market to the state commission within two months of the state commission's determination that requesting telecommunications carriers are not impaired without access to local circuit switching on an unbundled basis. Each requesting telecommunications carrier shall also notify the state commission when it has submitted its orders for migration. Each incumbent LEC shall notify the state commission when it has completed the migration.

(3) DS1 capacity and above (*i.e.*, enterprise market) determinations. An incumbent LEC is not required to provide access to local circuit switching on an unbundled basis to requesting telecommunications carriers for the purpose of serving end-user customers using DS1 capacity and above loops except where the state commission petitions this Commission for waiver of this finding in accordance with the conditions set forth in paragraph (d)(3)(i) of this section and the Commission grants such waiver.

(i) State commission inquiry. In its petition, a state commission wishing to rebut the Commission's finding should petition the Commission to show that requesting telecommunications carriers are impaired without access to local circuit switching to serve end users using DS1 capacity and above loops in a particular geographic market as defined in accordance with paragraph (d)(2)(i) of this section if it finds that operational or economic barriers exist in that market.

(A) In making this showing, the state commission shall consider the following operational characteristics: incumbent LEC performance in provisioning loops; difficulties associated with obtaining collocation space due to lack of space or delays in provisioning by the incumbent LEC; and the difficulties associated with obtaining cross-connects in the incumbent LEC's wire center.

(B) In making this showing, the state commission shall consider the following economic characteristics: the cost of entry into a particular market, including those caused by both operational and economic barriers to entry; requesting telecommunications carriers' potential revenues from serving enterprise customers in that market, including all likely revenues to be gained from entering that market; the prices requesting telecommunications carriers are likely to be able to charge in that market, based on a consideration of the prevailing retail rates the incumbent LEC charges to the different classes of customers in the different parts of the state.

(ii) Transitional four-line carve-out. Until the state commission completes the review described in paragraph (b)(2)(iii)(B)(4) of this section, an incumbent LEC shall comply with the four-line "carve-out" for unbundled switching established in Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 FCC Rcd 3822-31, paras. 276-98 (1999), reversed and remanded in part sub. nom. United States Telecom Ass'n v. FCC, 290 F.3d 415 (D.C. Cir. 2002).

(A) DS1 capacity and above end-user transition. Each requesting telecommunications carrier shall transfer its end-user customers served using DS1 and above capacity loops and unbundled local circuit switching to an alternative arrangement within 90 days from the end of the 90-day state commission consideration period set forth in paragraph (d)(5)(i), unless a longer period is necessary to comply with a "change of law" provision in an applicable interconnection agreement.

(4) Other elements to be unbundled. Elements relating to the local circuit switching element shall be made available on an unbundled basis as set forth in paragraphs (d)(4)(i) and (d)(4)(ii) of this section.

(i) An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to signaling, call-related databases, and shared transport facilities on an unbundled basis, in accordance with section 251(c)(3) of the Act and this part, to the extent that local circuit switching is required to be unbundled by a state commission. These elements are defined as follows:

(A) Signaling networks. Signaling networks include, but are not limited to, signaling links and signaling transfer points.

(B) Call-related databases. Call-related databases are defined as databases, other than operations support systems, that are used in signaling networks for billing and collection, or the transmission, routing, or other provision of a telecommunications service. Where a requesting

telecommunications carrier purchases unbundled local circuit switching from an incumbent LEC, an incumbent LEC shall allow a requesting telecommunications carrier to use the incumbent LEC's service control point element in the same manner, and via the same signaling links, as the incumbent LEC itself.

(1) Call-related databases include, but are not limited to, the calling name database, 911 database, E911 database, line information database, toll free calling database, advanced intelligent network databases, and downstream number portability databases by means of physical access at the signaling transfer point linked to the unbundled databases.

(2) Service management systems are defined as computer databases or systems not part of the public switched network that interconnect to the service control point and send to the service control point information and call processing instructions needed for a network switch to process and complete a telephone call, and provide a telecommunications carrier with the capability of entering and storing data regarding the processing and completing of a telephone call. Where a requesting telecommunications carrier purchases unbundled local circuit switching from an incumbent LEC, the incumbent LEC shall allow a requesting telecommunications carrier to use the incumbent LEC's service management systems by providing a requesting telecommunications carrier with the information necessary to enter correctly, or format for entry, the information relevant for input into the incumbent LEC's service management system, including access to design, create, test, and deploy advanced intelligent network-based services at the service management system, through a service creation environment, that the incumbent LEC provides to itself.

(3) An incumbent LEC shall not be required to unbundle the services created in the advanced intelligent network platform and architecture that qualify for proprietary treatment.

(C) Shared transport. Shared transport is defined as the transmission facilities shared by more than one carrier, including the incumbent LEC, between end office switches, between end office switches and tandem switches, and between tandem switches, in the incumbent LEC network.

(ii) An incumbent LEC shall provide a requesting telecommunications carrier nondiscriminatory access to operator services and directory assistance on an unbundled basis, in accordance with section 251(c)(3) of the Act and this part, to

the extent that local circuit switching is required to be unbundled by a state commission, if the incumbent LEC does not provide that requesting telecommunications carrier with customized routing, or a compatible signaling protocol, necessary to use either a competing provider's operator services and directory assistance platform or the requesting telecommunications carrier's own platform. Operator services are any automatic or live assistance to a customer to arrange for billing or completion, or both, of a telephone call. Directory assistance is a service that allows subscribers to retrieve telephone numbers of other subscribers.

(5) State commission proceedings. A state commission shall complete the proceedings necessary to satisfy the requirements in paragraphs (d)(2) and (d)(3) of this section in accordance with paragraphs (d)(5)(i) and (d)(5)(ii) of this section.

(i) Timing. A state commission shall complete any initial review applying the triggers and criteria in paragraph (d)(2) of this section within nine months from the effective date of the Commission's Triennial Review Order. A state commission wishing to rebut the Commission's finding of non-impairment for DS1 and above enterprise switches must file a petition with the Commission in accordance with paragraph (d)(3) within 90 days from that effective date.

(ii) Continuing review. A state commission shall complete any subsequent review applying these triggers and criteria within six months of the filing of a petition or other pleading to conduct such a review.

(e) Dedicated transport. An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to dedicated transport on an unbundled basis, in accordance with section 251(c)(3) of the Act and this part and as set forth in paragraph (e)(1) through (e)(5) of this section. As used in those paragraphs, a "route" is a transmission path between one of an incumbent LEC's wire centers or switches and another of the incumbent LEC's wire centers or switches. A route between two points (*e.g.,* wire center or switch "A" and wire center or switch "Z") may pass through one or more intermediate wire centers or switches (*e.g.,* wire center or switch "X"). Transmission paths between identical end points (*e.g.,* wire center or switch "A" and wire center or switch "Z") are the same "route," irrespective of whether they pass through the same intermediate wire centers or switches, if any.

(1) Dedicated DS1 transport. (i) An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to dedicated DS1 transport on an unbundled basis except where the state commission has found, through application of the competitive wholesale facilities trigger in paragraphs (e)(1)(ii) of this section, that requesting telecommunications carriers are not impaired without access to dedicated DS1 transport along a particular route. Dedicated DS1 transport consists of incumbent LEC interoffice transmission facilities that have a total digital signal speed of 1.544 megabytes per second and are dedicated to a particular customer or carrier.

(ii) Competitive wholesale facilities trigger for dedicated DS1 transport. A state commission shall find that a requesting telecommunications carrier is not impaired without access to dedicated DS1 transport along a particular route where two or more competing providers not affiliated with each other or with the incumbent LEC, including intermodal providers of service comparable in quality to that of the incumbent LEC, each satisfy the conditions in paragraphs (e)(1)(ii)(A) through (e)(1)(ii)(D) of this section.

(A) The competing provider has deployed its own transport facilities and is operationally ready to use those facilities to provide dedicated DS1 transport along the particular route. For purposes of this paragraph, the competing provider's DS1 facilities may use dark fiber facilities that the competing provider has obtained on an unbundled, leased, or purchased basis if it has attached its own optronics to activate the fiber.

(B) The competing provider is willing immediately to provide, on a widely available basis, dedicated DS1 transport along the particular route.

(C) The competing provider's facilities terminate in a collocation arrangement at each end of the transport route that is located at an incumbent LEC premises and in a similar arrangement at each end of the transport route that is not located at an incumbent LEC premises.

(D) Requesting telecommunications carriers are able to obtain reasonable and nondiscriminatory access to the competing provider's facilities through a cross-connect to the competing provider's collocation arrangement at each end of the transport route that is located at an incumbent LEC premises and though a similar arrangement at each end of the transport route that is not located at an incumbent LEC premises.

(2) Dedicated DS3 transport. Subject to the cap in paragraph (e)(2)(iii) of this section, an incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to dedicated DS3 transport on an unbundled basis except where the state commission has found, through application of either paragraph (e)(2)(i) of this section or the potential deployment analysis in paragraph (e)(2)(ii) of this section, that requesting telecommunications carriers are not impaired without access to dedicated DS3 transport along a particular route. Dedicated DS3 transport consists of incumbent LEC interoffice transmission facilities that have a total digital signal speed of 44.736 megabytes per second and are dedicated to a particular customer or carrier.

(i) Triggers for dedicated DS3 transport. A state commission shall find that a requesting telecommunications carrier is not impaired without access to unbundled dedicated DS3 transport along a particular route where either of the triggers in paragraphs (e)(2)(i)(A) or (e)(2)(i)(B) of this section is satisfied.

(A) Self-provisioning trigger for dedicated DS3 transport. To satisfy this

trigger, a state must find that three or more competing providers not affiliated with each other or with the incumbent LEC, including intermodal providers of service comparable in quality to that of the incumbent LEC, each satisfy the conditions in paragraphs (e)(2)(i)(A)(1) and (e)(2)(i)(A)(2) of this section.

(1) The competing provider has deployed its own transport facilities and is operationally ready to use those transport facilities to provide dedicated DS3 transport along the particular route. For purposes of this paragraph, the competing provider's DS3 transport facilities may use dark fiber facilities that the competing provider has obtained on a long-term, indefeasible-right of use basis and that it has deployed by attaching its own optronics to activate the fiber.

(2) The competing provider's facilities terminate at a collocation arrangement at each end of the transport route that is located at an incumbent LEC premises and in a similar arrangement at each end of the transport route that is not located at an incumbent LEC premises.

(B) Competitive wholesale facilities trigger for dedicated DS3 transport. To satisfy this trigger, a state must find that two or more competing providers not affiliated with each other or with the incumbent LEC, including intermodal providers of service comparable in quality to that of the incumbent LEC, each satisfy the conditions in paragraphs (e)(2)(i)(B)(1) through (e)(2)(i)(B)(4) of this section.

(1) The competing provider has deployed its own transport facilities, including transport facilities that use dark fiber facilities that the competing provider has obtained on an unbundled, leased, or purchased basis if it has attached its own optronics to activate the fiber, and is operationally ready to use those facilities to provide dedicated DS3 transport along the particular route.

(2) The competing provider is willing immediately to provide, on a widely available basis, dedicated DS3 transport along the particular route.

(3) The competing provider's facilities terminate in a collocation arrangement at each end of the transport route that is located at an incumbent LEC premises and in a similar arrangement at each end of the transport route that is not located at an incumbent LEC premises.

(4) Requesting telecommunications carriers are able to obtain reasonable and nondiscriminatory access to the competing provider's facilities through a cross-connect to the competing provider's collocation arrangement at each end of the transport route that is located at an incumbent LEC premises and though a similar arrangement at each end of the transport route that is not located at an incumbent LEC premises.

(ii) Potential deployment of dedicated DS3 transport. Where neither trigger in paragraph (e)(2)(i) of this section is satisfied, a state commission shall consider whether other evidence shows that a requesting telecommunications carrier is not impaired without access to unbundled dedicated DS3 transport along a particular route. To make this determination, a state must consider the following factors: local engineering costs of building and utilizing transmission facilities; the cost of underground or aerial laying of fiber or copper; the cost of equipment needed for transmission; installation and other necessary costs involved in setting up service; local topography such as hills and rivers; availability of reasonable access to rights-of-way; availability/feasibility of similar quality/reliability alternative transmission technologies along the particular route; customer density or addressable market; and existing facilities-based competition.

(iii) Cap on unbundled DS3 circuits. A requesting telecommunications carrier may obtain a maximum of 12 unbundled dedicated DS3 circuits for any single route for which dedicated DS3 transport is available as unbundled transport.

(3) Dark fiber transport. An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to dark fiber transport on an unbundled basis except where the state commission has found, through application of either paragraph (e)(3)(i) of this section or the potential deployment analysis in paragraph (e)(3)(ii) of this section, that requesting telecommunications carriers are not impaired without access to unbundled dark fiber transport along the particular route. Dark fiber transport consists of unactivated optical interoffice transmission facilities.

(i) Triggers for dark fiber transport. A state commission shall find that a requesting telecommunications carrier is not impaired without access to dark fiber transport along a particular route where either of the triggers in paragraph (e)(3)(i)(A) or paragraph (e)(3)(i)(B) of this section is satisfied.

(A) Self-provisioning trigger for dark fiber transport. To satisfy this trigger, a state commission must find three or more competing providers not affiliated with each other or with the incumbent LEC, each satisfy paragraphs (e)(3)(i)(A)(1) and (e)(3)(i)(A)(2) of this section.

(1) The competing provider has deployed its own dark fiber facilities, which may include dark fiber facilities that it has

obtained on a long-term, indefeasible-right of use basis.

(2) The competing provider's facilities terminate in a collocation arrangement at each end of the transport route that is located at an incumbent LEC premises and in a similar arrangement at each end of the transport route that is not located at an incumbent LEC premises.

(B) Competitive wholesale facilities trigger for dark fiber transport. To satisfy this trigger, a state commission must find that two or more competing providers not affiliated with each other or with the incumbent LEC, each satisfy paragraphs (e)(3)(i)(B)(1) through (e)(3)(i)(B)(4) of this section. In applying this trigger, the state commission may consider whether competing providers have sufficient quantities of dark fiber available to satisfy current demand along that route.

(1) The competing provider has deployed its own dark fiber, including dark fiber that it has obtained from an entity other than the incumbent LEC, and is operationally ready to lease or sell those facilities for the provision of fiber-based transport along the particular route.

(2) The competing provider is willing immediately to provide, on a widely available basis, dark fiber along the particular route.

(3) The competing provider's dark fiber terminates in a collocation arrangement at each end of the transport route that is located at an incumbent LEC premises and in a similar arrangement at each end of the transport route that is not located at an incumbent LEC premises.

(4) Requesting telecommunications carriers are able to obtain reasonable and nondiscriminatory access to the competing provider's dark fiber through a cross-connect to the competing provider's collocation arrangement at each end of the transport route that is located at an incumbent LEC premises and though a similar arrangement at each end of the transport route that is not located at an incumbent LEC premises.

(ii) Potential deployment of dark fiber transport. Where neither trigger in paragraph (e)(3)(i) of this section is satisfied, a state commission shall consider whether other evidence shows that a requesting telecommunications carrier is not impaired without access to unbundled dark fiber transport along a particular route. To make this determination, a state must consider the following factors: local engineering costs of building and utilizing transmission facilities; the cost of

underground or aerial laying of fiber; the cost of equipment needed for transmission; installation and other necessary costs involved in setting up service; local topography such as hills and rivers; availability of reasonable access to rights-of-way; availability/feasibility of similar quality/reliability alternative transmission technologies along the particular route; customer density or addressable market; and existing facilities-based competition.

(4) State commission proceedings. A state commission shall complete the proceedings necessary to satisfy the requirements in paragraphs (e)(1), (e)(2), and (e)(3) of this section in accordance with paragraphs (e)(4)(i) and (e)(4)(ii) of this section.

(i) Initial review. A state commission shall complete any initial review applying the triggers and criteria in paragraphs (e)(1), (e)(2), and (e)(3) of this section within nine months from the effective date of the Commission's Triennial Review Order.

(ii) Continuing review. A state commission shall complete any subsequent review applying these triggers and criteria within six months of the filing of a petition or other pleading to conduct such a review.

(5) Routine network modifications. (i) An incumbent LEC shall make all routine network modifications to unbundled dedicated transport facilities used by requesting telecommunications carriers where the requested dedicated transport facilities have already been constructed. An incumbent LEC shall perform all routine network modifications to unbundled dedicated transport facilities in a nondiscriminatory fashion, without regard to whether the facility being accessed was constructed on behalf, or in accordance with the specifications, of any carrier.

(ii) A routine network modification is an activity that the incumbent LEC regularly undertakes for its own customers. Routine network modifications include, but are not limited to, rearranging or splicing of cable; adding an equipment case; adding a doubler or repeater; installing a repeater shelf; and deploying a new multiplexer or reconfiguring an existing multiplexer. They also include activities needed to enable a requesting telecommunications carrier to light a dark fiber transport facility. Routine network modifications may entail activities such as accessing manholes, deploying bucket trucks to reach aerial cable, and installing equipment casings. Routine network modifications do not include the installation of new aerial or buried cable for a requesting telecommunications carrier.

(f) 911 and E911 databases. An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to 911 and E911 databases on an unbundled basis, in accordance with section 251(c)(3) of the Act and this part.

(g) Operations support systems. An incumbent LEC shall provide a requesting

telecommunications carrier with nondiscriminatory access to operations support systems on an unbundled basis, in accordance with section 251(c)(3) of the Act and this part. Operations support system functions consist of pre-ordering, ordering, provisioning, maintenance and repair, and billing functions supported by an incumbent LEC's databases and information. An incumbent LEC, as part of its duty to provide access to the pre-ordering function, shall provide the requesting telecommunications carrier with nondiscriminatory access to the same detailed information about the loop that is available to the incumbent LEC.

11. Section 51.320 is added to read as follows:

§ 51.320 Assumption of responsibility by the Commission.

If a state commission fails to exercise its authority under § 51.319, any party seeking that the Commission step into the role of the state commission shall file with the Commission and serve on the state commission a petition that explains with specificity the bases for the petition and information that supports the claim that the state commission has failed to act. Subsequent to the Commission's issuing a public notice and soliciting comments on the petition from interested parties, the Commission will rule on the petition within 90 days of the date of the public notice. If it agrees that the state commission has failed to act, the Commission will assume responsibility for the proceeding, and within nine months from the date it assumed responsibility for the proceeding, make any findings in accordance with the Commission's rules.

12. Section 51.325 is amended by adding paragraph (a)(4) to read as follows:

§ 51.325 Notice of network changes: Public notice requirement.

(a) ***

(4) Will result in the retirement of copper loops or copper subloops, and the replacement of such loops with fiber-to-the-home loops, as that term is defined in § 51.319(a)(3).

*****

13. Section 51.331 is amended by adding paragraph (c) to read as follows:

§ 51.331 Notice of network changes: Timing of notice.

*****

(c) Competing service providers may object to incumbent LEC notice of retirement of copper

loops or copper subloops and replacement with fiber-to-the-home loops in the manner set forth in § 51.333(c).

14. Section 51.333 is amended by revising the section heading, paragraphs (b) and (c) introductory test, and by adding paragraph (f) to read as follows:

§ 51.333 Notice of Network Changes: Short term notice, objections thereto and objections to retirement of copper loops or copper subloops.

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(b) Implementation date. The Commission will release a public notice of filings of such short term notices or notices of replacement of copper loops or copper subloops with fiber-to-the-home loops. The effective date of the network changes referenced in those filings shall be subject to the following requirements:

(i) Short term notice. Short term notices shall be deemed final on the tenth business day after the release of the Commission's public notice, unless an objection is filed pursuant to paragraph (c) of this section.

(ii) Replacement of copper loops or copper subloops with fiber-to-the-home loops. Notices of replacement of copper loops or copper subloops with fiber-to-the-home loops shall be deemed approved on the 90th day after the release of the Commission's public notice of the filing, unless an objection is filed pursuant to paragraph (c) of this section. Incumbent LEC notice of intent to retire any copper loops or copper subloops and replace such loops or subloops with fiber-to-the-home loops shall be subject to the short term notice provisions of this section, but under no circumstances may an incumbent LEC provide less than 90 days notice of such a change.

(c) Objection procedures for short term notice and notices of replacement of copper loops or copper subloops with fiber-to-the-home loops. An objection to an incumbent LEC's short term notice or to its notice that it intends to retire copper loops or copper subloops and replace such loops or subloops with fiber-to-the-home loops may be filed by an information service provider or telecommunications service provider that directly interconnects with the incumbent LEC's network. Such objections must be filed with the Commission, and served on the incumbent LEC, no later than the ninth business day following the release of the Commission's public notice. All objections filed under this section must:

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(f) Resolution of objections to replacement of copper loops or copper subloops with fiber-to-the-home loops. An objection to a notice that an incumbent LEC intends to retire any copper loops or copper subloops and replace such loops or subloops with fiber-to-the-home loops shall be deemed denied 90 days after the date on which the Commission releases public notice of the

incumbent LEC filing, unless the Commission rules otherwise within that time. Until the Commission has either ruled on an objection or the 90-day period for the Commission's consideration has expired, an incumbent LEC may not retire those copper loops or copper subloops at issue for replacement with fiber-to-the-home loops.

15. Section 51.509 is amended by revising paragraph (a) and adding paragraph (h) to read as follows:

§ 51.509 Rate structure standards for specific elements.

(a) Local loop and subloop. Loop and subloop costs shall be recovered through flat-rated charges.

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(h) Network interface device. An incumbent LEC must establish a price for the network interface device when that unbundled network element is purchased on a stand-alone basis pursuant to § 51.319(c).

SEPARATE STATEMENT OF
CHAIRMAN MICHAEL K. POWELL
APPROVING IN PART AND DISSENTING IN PART

Re: Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (CC Docket No. 01-338), Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 (CC Docket No.96-98), and Deployment of Wireline Services Offering Advanced Telecommunications Capability (CC Docket No. 98-147).

Today, the Commission concludes one of its most significant proceedings ever. The Triennial Review has been a complicated and difficult undertaking, but one that will set critical parameters for competition and broadband deployment for years to come. There are some important achievements in this Order that have long been objectives of mine—namely, substantial broadband relief. Yet, regrettably, there are some fateful decisions as well that I believe represent poor policy and which flout the law. While I am pleased that the Majority has made a number of changes to their UNE-P decision that respond to my concerns, significant legal failings remain. Accordingly, I must respectfully dissent.

I. The Order Takes Bold Steps to Promote Broadband Investment

I begin with the substantial step we take today to create a broadband regulatory regime that will stimulate and promote deployment of next-generation infrastructure, bringing a bevy of new services and applications to consumers. I have long stated that broadband deployment is the most central communications policy objective of our day. Today, we at last put some substance into that stated goal. I am proud to say that we take some vital steps across the desert from the analog world to the digital one. Today's decision makes significant strides to promote investment in advanced architecture and fiber by removing unbundling obligations consistent with a faithful application of Congress' impair standard. Consistent with the statute, the Order removes unbundling obligations that have applied to last mile "Fiber to the Home" deployments. In hybrid copper-fiber networks, the Commission has determined that incumbent LECs are not required to unbundle packet-switching functionality provided over these facilities; but competitors will continue to receive access to high-capacity loops provided over incumbent LEC Time Division Multiplexing ("TDM") networks.[1] These decisions mean that the digital migration is one step further along, as more investment flows into the deployment of these advanced networks.

To date, line sharing is the Commission's most successful broadband policy and it has

[1] In so doing, we require incumbent LECs to unbundle legacy technologies such as HDSL while removing barriers to the deployment of innovative advanced electronics such as Passive Optical Networking ("PON") components.

generated clear and measurable benefits for consumers. It has unquestionably given birth to important broadband suppliers. This additional facilities-based competition has directly contributed to lower prices for new broadband services.

I also believe the argument that removing line sharing is a form of positive regulatory relief to stimulate broadband is ill-conceived. Line sharing rides on the old copper infrastructure, not on the new advanced fiber networks that we are attempting to push to deployment. Indeed, the continued availability of line sharing and the competition that flowed from it likely would have pressured incumbents to deploy more advanced networks in order to move from the negative regulatory pole to the positive regulatory pole, by deploying more fiber infrastructure. This decision actually diminishes the competitive pressure to do so.

II. The Majority's Switching Decision Is Bad Law, Bad Policy and Ultimately Bad for Consumers

In opening this proceeding, this Commission committed itself to conduct a thorough review of its unbundling policies. This review took on greater importance in light of a slumping telecommunications sector and the D.C. Circuit's *USTA* decision vacating the rules that unbundled every element of an incumbent's network. Thus, the Commission was ordered to reconstruct its list of unbundled elements from the ground up – making an element available only if the Commission could show a competitor was significantly impaired without it. As we have endeavored to do so, the most controversial judgment rested with the switching element. The importance of this element is not in its particular functionality, but that it represents the capstone of what has become known as the unbundled platform or UNE-P. UNE-P is nothing more than a complete use of the incumbent's network, priced by element. This results in a substantially lower price than the statute allows for resale. If switching is available, it is very likely a carrier can resell the entire incumbent's network, at heavily discounted rates set by regulators, without having to provide anything in the way of its own infrastructure. After one sorts through the legal contortions of the Majority's switching decision he will find an Order remarkably similar to the prior two fatal decisions – one that preserves UNE-P as the favored mode of competition, without any meaningful consideration of the social and economic costs of unbundling. This is bad policy and bad law.

Consistently underlying my position is a commitment to promote and advance competition that is meaningful and sustainable, and that will eventually achieve Congress' goal of reducing regulation and promoting facilities-based competition.[2] The benefits of such a policy are straightforward:

[2] The Commission recognized in the last unbundling order that the goal of our regime is to "promote the development of facilities-based competition." *Third Report and Order and Fourth Further Notice of Proposed Rulemaking,* 15 FCC Rcd 3696, para. 7 (1999) ("UNE Remand Order"). Today's UNE-P decision, however, does not support the established proposition that facilities-based competition is the preferred method to achieve the twin Congressional goals of deregulation and competition.

- Facilities-based competition means a competitor can offer service differentiated from the incumbent.
- Facilities-based competitors own more of their network and can control more of their costs, thereby offering consumers real potential for lower prices.
- Facilities-based competitors are less dependent on the incumbent thereby reducing the need for regulation – an explicit Congressional goal.
- Facilities-based competitors also create vital redundant networks that can serve our nation if other facilities are damaged by those hostile to our way of life.

Apparently, the Majority is a big fan of UNE-P, because it has contorted the letter and spirit of the statute and the court's interpretation of our responsibilities in an effort to ensure its indefinite preservation. What is remarkable about this decision is that one looks in vain to find a clear or coherent federal policy in the Majority's choices. Today's decision clearly steps back from a pro-facilities policy, by favoring extensive regulatory management of incumbent networks. Under this regime, state regulators set retail rates, state regulators set all wholesale rates, and state regulators determine what elements will be made available. More distressing than giving facilities providers the back of their hand, I see no meaningful federal policy put in its place, other than vague and solicitous pronouncements about the states playing the lead role in making these determinations and a commitment to "competition," no matter how anemic or artificial. Congress demanded the Commission not be so demur when it vested it with responsibility for the unbundling regime.

This proceeding began properly as an exercise to determine what elements should be unbundled. It was transformed into a battle not over *what* should be unbundled, but *who* should decide – this Commission or the states. Make no mistake, the role of the states dominated this proceeding solely because states are perceived as a more favorable venue for preserving the *status quo* of aggressive unbundling rights. Indeed, this perception is not without support as the states, through the National Association of Regulatory Utility Commissions (NARUC), supported the "universal availability of UNE-P."[3] Competitors who once viewed states as less than perfect protectors of competition, swapped positions and took refuge in a states rights debate that was a stalking horse for a policy of maximum unbundling. In this environment, the Majority decided to take a politically expedient course instead of the right course: they decided not to make any of the difficult calls that this proceeding demanded. Notwithstanding the tens of thousands of pages of record evidence compiled over the course of a full year and the tireless work of Commission staff, the Majority ruled that there was little basis in the record for any conclusive decision and that states, instead, should make the lion's share of unbundling determinations. The record was beside the point, the goal was to keep UNE-P in place. In so doing, the Majority's decision substantially repeats the errors of our past approaches to unbundling.

[3] Letter from Joan Smith, Chair, NARUC to Chairman Michael K. Powell (December 5, 2001).

III. The Majority's Decision Does Not Establish A Meaningful Limit on Unbundled Switching As the Courts Require

A. The Majority's Decision to Unbundle Switching for the Mass Market is Flawed

I also dissent from the switching section of this *Order* because I find a Commission majority for the third time in seven years substituting its preference for a heavily permissive unbundling regime for Congress's judgment that no element should be provided unless the Commission can affirmatively conclude that a competitor is impaired without it. The Supreme Court admonished that section 251(d)(2) placed "clear limits" on the Commission's authority to order unbundling. *AT&T v. Iowa Utils. Bd.*, 525 U.S. 388, 397 (1999). The Commission's second unbundling attempt also failed, when the D.C. Circuit vacated our rules last summer. The D.C. Circuit emphasized that the Commission could not treat unbundling as an unqualified good and had to consider the social costs as well. *See United States Telcom Ass'n v. FCC*, 290 F.3d 415, 427 (D.C. Cir. 2002). It also admonished that the standard employed and applied by the FCC had to demonstrate that a typical entrant was effectively prohibited from entering the market due to barriers associated with the monopoly power of the incumbent and not just typical start-up costs or costs naturally associated with entry. *Id.* at 422. In reaching its switching decision, the Majority flouts the D.C. Circuit's mandate.

I begin with a discussion of the Majority's mass market switching decision. First I question whether the Majority has adequately explained its conclusion that competitors are operationally impaired without unbundled switching as a national matter. Second, I discuss whether the Majority's economic impairment analysis provides a meaningful limitation on the availability of UNE-P. Finally, I examine the Majority's approach to UNE-P in the business market.

i. The Majority Decision Ignores Record Evidence of Hot Cut Performance as a Limitation on Unbundled Switching

In the mass market, the Majority rests its switch unbundling requirement solely on the blanket judgment that the incumbent "hot cut" process – a process that relates solely to loop provisioning – justifies unbridled switch unbundling. This speculative, nationalized finding ignores substantial record evidence and cannot be squared with this Commission's own findings that incumbent LECs perform hot cuts at sufficient levels to demonstrate that competitors are presented with a meaningful opportunity to compete. Indeed, in each and every one of the orders approving Bell Company applications to provide long distance service, the Commission has found, after painstaking state review, that this standard is met.[4] The Majority on the other hand

[4] Indeed we have now examined the hot cut processes in 42 states and the District of Columbia and found that each and every BOC has in place a hot cut process that provides competitors a meaningful opportunity to compete. *See e.g.*, *Application by SBC Communications Inc., Southwestern Bell Telephone Company, And Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance; Pursuant to Section 271 of the Telecommunications Act of 1996 To Provide In-Region, InterLATA Services In Texas*, CC Docket No. 00-65, FCC 00-238, Memorandum Opinion and Order, 15 FCC Rcd 18354, 18490-93, paras. 268-73 (2000); *Joint Application* (continued….)

has loftily abstracted away from the granular findings of this Commission's 271 Orders in favor of vague pronouncements that lead back to variation on that same state-sponsored process. Such a tautology cannot withstand scrutiny.

The Majority disregards this objective evidence in the record on the ground that hot cut volumes could substantially increase if UNE-P were phased out. Based entirely on speculation that such an increase could result in a degradation of hot cut performance, the Majority presumes impairment. But even here the Majority is not entirely certain of its own conclusion, stating that "it is *unlikely* that incumbent LECs will be able to provision hot cuts in sufficient volumes absent unbundled local switching in all markets."[5] I cannot agree with a Commission finding that the hot cut process is so presumptively broken that incumbents must offer UNE-P indefinitely without a "more nuanced concept" of where and when that process might cause impairment. *United States Telecom Ass'n v. FCC*, 290 F.3d at 426. The Majority's finding likewise flies in the face of substantial record evidence that incumbents can perform at levels to meet "reasonably foreseeable demand volumes" for hot cuts. *E.g.*, *New York 271 Order*, 15 FCC Rcd at 3993.[6] Additionally, there are other, more direct methods of ensuring that the hot cut process is working that fall short of the extraordinary remedy of unbundling the switch.[7] I would have preferred to continue the existing partnership with state regulators to further define an incumbent's obligations in this area and, where it is demonstrated that the hot cut processes has broken down, order a narrowly tailored remedy.

ii. The Majority's Mass Market Switch Triggers Are Illusory

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by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Kansas and Oklahoma, CC Docket No. 00-217, FCC 01-29, Memorandum Opinion and Order, 16 FCC Rcd 6237, 6340, para. 207 (2001); *Joint Application by BellSouth Corporation, BellSouth Telecommunications, Inc., And BellSouth Long Distance, Inc for Provision of In-Region, InterLATA Services In Georgia and Louisiana*, CC Docket No. 02-35, FCC 02-147, Memorandum Opinion and Order, 16 FCC Rcd 9018, 9145, para. 220 (2002); *Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act To Provide In-Region, InterLATA Service in the State of New York*, CC Docket No. 99-295, FCC 99-404, Memorandum Opinion and Order, 15 FCC Rcd 3953, 4104-05, para. 291 (1999); *Application by Qwest Communications Internationl, Inc. for Authorization to Provide In-Region, InterLATA Services in the States of Colorado, Idaho, Iowa, Montana, Nebraska, North Dakota, Utah, Washington and Wyoming*, WC Docket No. 02-314, FCC 02-332, Memorandum Opinion and Order, 17 FCC Rcd 26,303, 26,370, para. 107 (2002).

[5] Order para. 468 (emphasis added).

[6] The Majority erroneously cites the New York Commission's conclusion that "it would take Verizon over 11 years to switch all the existing UNE-P customers to UNE-L" without disclosing that the New York Commission did not assume any increase in the incumbent's hot cut capacity scaled to meet reasonable forecasts of demand. *See* Order para. 469.

[7] For example, state regulators could continue their existing, active approach to enforcing hot cut performance measures; unbundled switching might serve as a remedy where poor hot cut performance is demonstrated.

After wading through the complexity of the Majority's regulatory framework for mass market switching, two conclusions emerge from the tangle of conflicting pronouncements: First, the "objective" switch triggers relied upon by the Majority are an illusory limitation. Second, because the switching triggers are not a meaningful limitation, states are essentially free to do as they wish.

The Majority purports to constrain state discretion by removing unbundled switching where 3 self-provisioned switches or 2 wholesalers are present in a given market.[8] This is no limitation at all. Indeed there may be few markets, if any, that include three competitors using self-provisioned switching to serve the mass market. Directing states to apply this trigger is therefore largely a meaningless exercise. Why? Because an honest inquiry into this area must recognize what the record amply demonstrates: there is a correlation between the availability of UNE-P and the failure of competitors to utilize their own switching capacity. I fully appreciate the challenges that carriers face in utilizing self-provisioned switching to serve the mass market. I cannot square the Majority's approach, which sets a trigger at a level that is presently satisfied almost nowhere, with a record that shows competitors are *now* widely serving mass market customers using their own switches and unbundled loops.

Furthermore, the Commission's own data is replete with findings that the average number of lines that competing carriers serve with their own switches and unbundled loops dropped sharply between the beginning of 2000 and June of 2002. In just eight of the states where carriers now make extensive use of UNE-P, competitors are connecting more than 45,000 fewer lines per month – or more than half a million *fewer* lines per year – to their own switches using unbundled loops compared to 2000.[9] Far from fostering a transition to facilities-based networks, the Commission's data suggest that some carriers are moving existing lines from their switches to UNE-P, leaving competitor switches underutilized.[10] These facts suggest that it is unreasonable to expect that competitors will utilize self-provisioned switching capacity while a

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[8] Order para. 463.

[9] The eight states are New York, New Jersey, Massachusetts, Georgia, Florida, Illinois, California, and Texas. *Selected RBOC Local Telephone Data*, *available at:* http://www.fcc.gov/wcb/iatd/comp.html (RBOC Local Telephone Dec 1999.xls; RBOC Local Telephone June 2000.xls; RBOC Local Telephone Dec. 2000.xls; RBOC Local Telephone June 2001.xls; RBOC Local Telephone Dec 2001.xls; RBOC Local Telephone June 2002.xls).

[10] The Commission's data show that the number of CLEC-owned lines other than those provided by cable decreased by half a million lines between December 2002 and June 2002, while the number of UNE-P lines increased from 5.8 to 7.5 million. *See Local Telephone Competition: Status as of June 30, 2002* (December 2002) at Tables 2, 3 & 5; *Local Telephone Competition: Status as of June 30, 2000* (December 2000) at Table 5. *See, e.g.*, UNE Rebuttal Report 2002, Prepared for BellSouth, SBC, Qwest, and Verizon, filed with the Federal Communications Commission, *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket No. 01-338, at 30 (October 2002) ("UNE Rebuttal Report"). The failure of facilities-based CLECs to accelerate their deployment plans may likewise explain why the rollout of cable telephony has proceeded at a slower pace than many expected.

steeply discounted and long-term UNE-P alternative exists.[11]

The purportedly "objective" and "mandatory" switch trigger is also undermined by unheeled discretion states are permitted in defining the market to which the trigger applies. Every antitrust lawyer knows that the outcome of any case is generally won or lost over how the market is defined. The same is true of the Majority's impairment analysis.[12] While conceding that the "triggers and analysis . . . must be applied on a granular basis to each identifiable market" the Majority bounds the market definition exercise only by acknowledging that states "may not define the market as encompassing the entire state."[13] Under this guidance, it could be argued, that the state of Rhode Island cannot define the geographic scope of its market any larger than its 1545 square miles will permit; but next door, Massachusetts regulators are free to define the market nearly seven times larger than their Rhode Island counterparts. Never mind that it is possible for switches located in Providence to serve a customer in Boston. This is not granularity, it is gerrymandering. Put simply, states are likely to reach wildly different results in applying the trigger because the trigger is tied to state market definitions that can be as large as a LATA and as small as a wire center.[14] The Majority responds that the physical location of the switch may have little if anything to do with the location of the customer served by a switch; but that rationale calls into question the very premise that states are uniquely qualified to make these judgments, which is the cornerstone of the Majority's holding, and suggests a national finding is more appropriate. The Majority's market-definition approach is therefore not sufficiently grounded in objective, limiting criteria.

iii. The Majority Delegates to the States the Power to Unbundle Switching Based on Economic Impairment, Without Meaningful Limits

The Majority finds impairment based solely on the basis of operational impairment and the "hot cut" process. Yet, it empowers states to find economic impairment (even after curing the operational concern) based on a laundry list of possible economic disadvantages.[15] The first

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[11] I cannot agree that the presence of a batch migration process will sufficiently counter the powerful incentive of carriers to send merely an order to obtain a UNE-P arrangement rather than utilize their own switching capacity.

[12] States are granted "discretion to determine the contours of each market" in conducting their impairment inquiries. Order para. 495.

[13] Order para. 495.

[14] *See* Order para. 495.

[15] The Majority's list of possible sources of economic impairment could hardly be longer. Potential costs that a state commission must consider include: "the cost of purchasing and installing a switch, the recurring and non-recurring charges paid to the incumbent LEC for loops, collocations, transport, hot cuts, OSS, signaling, and other services and equipment necessary to access the loop; the cost of collocation and equipment necessary to serve local exchange customers in a wire center, taking into consideration an entrant's likely market share, the scale economies inherent to serving a wire center and the line density of the wire center; the cost of backhauling the local traffic to the competitors switch; other costs associated with transferring the customer's service over to the competitor; the (continued….)

error it makes in taking this path is that the Majority blinds itself to the significant self-provisioned switching capacity that exists in the market and the fact that a number of competitors have overcome whatever economic impediments exist and are using that switching capability to serve mass market customers.[16] I believe the record supports an approach that would have enlisted states in a joint enforcement regime designed to address operational issues that might frustrate a transition to facilities-based competition. Instead, the Majority has unleashed a chaotic process that directs the states to find economic impairment that is simply not cognizable under section 251(d)(2).

As described below, states are free to do what they choose in weighting the Majority's economic criteria in divergent and subjective ways. Indeed, given these economic criteria, it would be difficult to judge whether an individual state has complied with the delegation granted to it.[17] Perhaps this is why the Majority has resisted an exclusive appeal right to this Commission and suggested that federal district courts – in lieu of this Commission – are an appropriate venue to review state decisions that apply these factors.[18] The significance of *Commission* oversight over this delegation should not be underestimated.[19] In my view, the statute commits to this Commission the ultimate responsibility for ensuring *its* unbundling decisions are adhered to. To remain faithful to the statutory scheme and principles of federal supremacy, however, the Commission must retain the *primary* decision making authority, and we must establish *clear* standards for the states to apply.[20]

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impact of churn on the cost of customer acquisitions; the cost of maintenance, operations and other administrative activities and the competitors' capital costs." Order para. 520.

[16] *See* BOC UNE Fact Report 2002 at I-9, Figure 6 Use of UNE Platforms by CLECs Providing Service to 25,000 or More Residential Lines Using Their Own Switches ("CLECs providing service to 25,000 or more facilities-based residential lines include: ALLTEL, Broadview, Cavalier Telephone, Intermedia, Knology, McLeodUSA, RCA, TOTALink).

[17] Federal district courts reviewing state decisions are likely to fare no better for the same reasons this Commission would have difficulty comparing state action against non-existent federal standards.

[18] The Majority admits that interested parties could file a section 208 complaint or petition for declaratory ruling with this Commission to ensure oversight with the Commission's switching framework. *See* Order para. 426. I cannot agree, however, that a section 208 adjudicatory proceeding is an appropriate procedural vehicle for oversight of state unbundling determinations of general applicability made pursuant to section 251(d)(2).

[19] For this reason, Commissioner Abernathy and I supported a specific, exclusive appeal right to this Commission to implement the transport decision; but such a right was not supported by the Majority. Transferring oversight responsibility to federal district courts under the guise of their arbitration review authority is, in my view, inconsistent with the statutory command that "the Commission shall consider" which network elements will be unbundled. 47 U.S.C. § 251(d)(2).

[20] For this reason, I fully support the Commission's delegation of federal authority to states to implement the Commission's unanimous transport and high-cap loop decision. In reaching the Commission's binding transport and high-capacity loop decisions we grant states a fact-finding role to implement our decision and therefore avoid abdicating our responsibilities under the Act. The Majority struggles to square the circle and harmonize its switching approach with our unanimous transport decision; but significant differences remain. First, because the (continued….)

There is no doubt that the statute does contemplate a state/federal partnership in certain areas. States are given control over the rates set for unbundled elements, but it is principally the obligation of this Commission to determine what those elements will be, faithfully implementing the impairment clause. States can assist in that effort, but our responsibilities should not be released to them. Justice Antonin Scalia, whose credentials are unchallenged as a leading voice for states' rights, eloquently addressed the division of federal and state authority when he wrote:

> [t]he question in these cases is not whether the Federal Government has taken the regulation of local telecommunications competition away from the States. With regard to the matters addressed by the 1996 Act, it unquestionably has. The question is whether the state commissions in the administration of the new *federal* regime is to be guided by federal-agency regulations. If there is any 'presumption' applicable to this question it should arise from the fact that a federal program administered by 50 independent state agencies is surpassing strange . . . .

AT&T v. Iowa Utils. Bd. 525 U.S. 388, 391. I could not agree more.[21]

1. The Majority's Subjective Economic Criteria Treats UNE-P as an Unqualified Good and Engages in Impermissible Bootstrapping

The *USTA* court cautioned this Commission not to rely on start up costs ordinarily associated with entry or conditions set by regulatory bodies in reaching our unbundling

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triggers are set at an appropriate level for the transport market, our transport decision establishes a meaningful limitation on unnecessary unbundling. Second, because the transport triggers establish a meaningful limitation, there is less of a need for the Commission to direct the states to engage in a subjective, multi-factor impairment analysis as in the Majority's switching decision.

[21] Compromise within the limits of the law is undoubtedly necessary for the administrative process to function smoothly; but on the question of federal – state relations, our efforts to compromise must not run afoul of the statutory scheme. The Majority charges me with hypocrisy by citing a single sentence in a past statement taken out of context, as evidence that I should support the switching result in the item released today. Order para. 425 n. 1306. The Majority stresses their opinion that the dissenters did not make sufficient efforts at compromise; but their citations to my past statements and parts of the item to which I consented, leaves me wondering whether the Majority may be more interested in one-upsmanship than compromise. As I describe below, I continue to believe that state regulators can assist in our efforts to achieve a rational unbundling regime, but our responsibilities should not be released to them. There is no inconsistency between my past statements and my current position that the Majority simply goes too far in that direction. If questions remain about my views, there is no doubt that I have grown in my concern about the long-term viability of UNE-P. This concern was amplified after the D.C. Circuit's *USTA* decision. To the extent a judicial decision intervened to change the legal landscape and caused me to rethink and expand upon my initial position, I do so humbly and openly, mindful that "wisdom too often never comes, and so one ought not to reject it merely because it comes late." *Henslee v. Union Planters*, 335 U.S. 595 (1949) (Frankfurter, J., dissenting).

decision.[22] Yet the Majority repeatedly relies upon ordinary start-up costs or other impediments within the control of federal and state regulators to justify its conclusion competitors are, or could be, impaired without switching. The result is a framework that treats UNE-P as an unqualified good without sufficient regard for the costs associated with the Majority's forced sharing requirements.

Many factors cited by the Majority are cost disparities universally faced by any new market entrant. For example, the Majority explicitly finds that customer churn rates – a prime example of ordinary start-up costs – contributes to impairment.[23] Thus the Commission, once again, has relied upon factors specifically rejected by the *USTA* court. The Majority goes on to note that competitor switching architecture "effectively requires competitors to deploy much longer loops than the incumbent."[24] I do not contest the fact that competitors must reach their loops farther away from self-provisioned switches compared to incumbents who have deployed ubiquitous switching capability. What I do contest is the Majority's failure to adequately recognize that this network configuration demonstrates that competitors generate their own countervailing competitive *advantage* by self-provisioning switching.[25] While the cost of backhauling traffic to a central switching point may or may not be marginally greater than the incumbent's cost of backhaul, competitors experience more advantageous cost conditions – including UNE transport rates – by avoiding the cost of deploying ubiquitous switching to every incumbent LEC wire center, thereby mitigating impairment.[26]

Reasonable minds could differ regarding the extent of this cost/benefit tradeoff but the law requires the Commission to confront this question in a serious manner that addresses both the benefits and social costs of unbundling – something the Majority has not done. Regrettably, given the porous nature of the switching triggers, there is simply no barrier that would preclude a

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[22] The Court noted that "average unit costs are necessarily higher at the outset for any new entrant into virtually any business." *Third Report and Order and Fourth Further Notice of Proposed Rulemaking*, 15 FCC Rcd 3696, para. 7 (1999).

[23] Order para. 471 ("The record demonstrates that the current level of churn for carriers providing service to the mass market has significant negative revenue effects on the ability of competitive carriers to recover the high costs associated with manual hot cuts.").

[24] Order para 480. The majority describes the costs of backhaul, which "include the costs of collocating in the customer's serving wire center, installing equipment in the wire center in order to digitize, aggregate, and transmit the voice traffic, and paying the incumbent to transport the traffic to the competitors switch, put [competitors] at a significant cost disadvantage to the incumbent." Id. 480.

[25] *See* Separate Statement of Commissioner Michael K. Powell, Dissenting in part, CC Docket No. 96-98 (November 5, 1999).

[26] *See USTA* at 290 F.3d at 427 (faulting the Commission for failing to identify countervailing competitor economy of scale advantages in switching "over the entire extent of the market."). *See also id*. at 423 (faulting the Commission for failing to consider "the advantage CLECs enjoy in being free of any duty to provide underpriced service to rural and/or residential customers.").

state from using low retail rates or high startup costs as a way to ensure UNE-P will continue to be available. The Majority approach, in effect, begins with a default assumption of impairment. Only when all barriers to *profitability* have been eliminated does this Commission empower states to eliminate UNE-P.[27] This exercise is unlikely to achieve the balance called for explicitly by Justice Breyer in *Verizon* or "implicitly by the Court as a whole in its disparagement of the Commission's readiness to find 'any' cost disparity reason enough to order unbundling." *United States Telecom Ass'n, v. FCC, 290 F.3d 415, 428.*

The Commission's task is to determine whether competitors are impaired without a given "element." By directing states to examine factors that are chosen to focus on and overstate competitor cost disadvantages without meaningful consideration of countervailing advantages, the Commission has focused not on whether competitors are impaired without the switching *element* but, rather, the Majority has endorsed a regime that focuses on whether self-provided switching is as *profitable* as UNE-P. It is the Commission's job to ensure that local markets are open to competition and that competitors are given a fighting chance to participate in that market. By explicitly engaging in a profitability analysis, the Commission has converted the impairment standard into a protector of individual business plans.[28] In so doing, the Majority asks the wrong question and provides the wrong answer.

The Majority attempts to guide states' evaluation of switching impairment with a shot-gun blast of every imaginable economic criterion. In so doing, however, it revives the very type of factors explicitly rejected by the *USTA* court. It is said that the average cost of collocation, the cost of backhauling local traffic to a competitor's switch, the cost of capital and a competitor's back office expenses bear on a state's decision to find impairment.[29] These factors are problematic because they are almost identical to the factors rejected in the *UNE Remand* decision.[30] I am particularly troubled that we are – once again – importing into the impairment

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[27] The Majority's comparison of costs and revenues amounts to a consideration of whether entry by a competitor is profitable. See Order paras. 517, 519-520.

[28] Order para. 517 n. 1579 (states may conduct "a business case analysis for an efficient entrant.").

[29] Order para. 520.

[30] The item's approach is virtually identical to the discredited "totality of the circumstances" test of the *UNE Remand Order*. *See* Order para. 458. Under the guise of granularity, it appears that the majority merely renamed the cost, quality, and ubiquity factors vacated by the D.C. Circuit by focusing the state analysis on precisely the alleged "impairments" analyzed by the Commission in the *UNE Remand* decision. *Compare UNE Remand Order* para. 263 (finding non-recurring costs of collocation constitutes impairment) *with Order* para. 520 (finding that states should consider whether non-recurring costs of collocation constitute impairment); *Compare UNE Remand Order* para. 266 (finding that loop cutovers costs constitute impairment) *with Order* para. 512 (finding that states should consider whether loop cutovers costs constitute impairment); *Compare UNE Remand Order* para. 256 (finding that geographic specific factors may determine impairment) *with Order* para. 520 (finding that states should consider whether geographic specific factors determine impairment); *Compare UNE Remand Order* para. 262 (finding that self-provisioning switching costs constitutes impairment) *with Order* para. 520 (finding that states should consider whether self-provisioning switching costs constitutes impairment).

analysis problems that do not result directly from denying competitors access to unbundled switching. To the extent collocation is a problem for competitors attempting to deploy their own switches, it is difficult to argue that this problem directly results from denying competitors access to unbundled switching.[31]

The Majority approach is more indefensible because through regulation we have addressed competitor collocation rights, and for the first time, solidified this area of competition policy with a judicial endorsement of their consistency with the Act.[32] Yet despite this success, the Majority would pervert these stable rules into sources of regulatory instability and impairment. Never mind that after this order, competitors will enjoy forward-looking prices for hot cuts, collocation and unbundled transport.[33] Never mind that Congress provided a direct remedy for competitor collocation in section 251. Instead, somehow the super-efficient pricing of collocation, hot cuts and transport (which is set by regulators) has been twisted into a source of competitive disadvantage and possible reason to order forced sharing of the incumbent's switch. This bootstrapping flies in the face of the Court's admonition that factors set by regulators can hardly justify economic impairment.[34]

The Majority's bootstrapping of UNE rights further ignores the fact that the rates for collocation and hot cuts as well as other UNEs, are not within the control of the incumbent LEC and therefore are not cognizable under section 251(d)(2).[35] The Majority has threaded its impairment analysis with characteristics that are not linked to natural monopoly in direct contravention of the *USTA* decision. The state commissions are ultimately responsible for setting the rates for collocation and unbundled transport. State commissions are likewise responsible for setting retail local phone rates. We stray too far from a reasonable interpretation of section 251(d)(2) when we cite these government-controlled prices as the reason that private

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[31] *See* Separate Statement of Commissioner Michael K. Powell, Dissenting in part, CC Docket No. 96-98 (November 5, 1999).

[32] Indeed the costs, delays, and physical constraints associated with collocation have already been addressed through the Commission's default provisioning interval. *See* Deployment of Wireline Services Offering Advanced Telecommunications Capability, *Fourth Report and Order*, CC Docket No. 98-147, 16 FCC Rcd 15435, 15454, para. 36 (2001) (Collocation Remand Order*), aff'd sub. nom. Verizon Telephone Cos. v. FCC*, 292 F.3d 903 (D.C. Cir. 2002).

[33] When geographic differences point to the elimination of an unbundling requirement, the Majority is all too happy to assume away these differences in favor of a national finding. *See* Order para. 470 ("Although hot cut costs vary among incumbent LECs, we find on a national level that these costs contribute to a significant barrier to entry.").

[34] Order para. 91 ("We examine those barriers to entry that are solely or primarily within the control of the incumbent LEC.") *See also USTA* at 427 (linking impairment to "natural monopoly" characteristics not conditions outside of control of incumbent LEC).

[35] Rather they are generally set according to state ratemaking authority found in section 252(d)(1)(A)(i). The statute does provide for interconnection agreements outside of the section 252 framework; but those arrangements are *bilateral* negotiations the terms of which are not entirely within the control of incumbent LECs.

companies should be required to unbundled their networks. The Majority's approach risks the possibility that government will sponsor competition through indirect decisions and endorsement of continued implicit subsidies designed to prop up synthetic competition.

When Congress adopted section 251(d)(2), it granted this Commission a toolbox to open local telephone markets to competition. One of those specific tools was unbundling. Unbundling is specifically designed to address impairments within the incumbent's control. The Majority's reliance on such things as collocation, CLEC-CLEC cross-connects, transport availability and retail rate structures is simply too far afield from the question of whether competitors are impaired without access to unbundled switching. I cannot support a decision to use the impairment standard as a hammer, a wrench, a screwdriver, etc., to fix every perceived problem that may ail rational competition in telecommunications markets.

I also have serious concerns that the Majority's switching approach is, in practice, unworkable.[36] The Majority's impairment model is dependent upon hundreds of assumptions about local exchange markets and costs. Simply by making different assumptions about local exchange networks, or by picking different input values for the costs, the Commission and implementing state commissions can reach widely varying conclusions, undermining a coherent federal regime and distorting entry decisions.[37] This uncertain environment disadvantages competitors and incumbents alike as neither is in a position to make rational investment decisions based on stable rules.

Finally, even in circumstances where a state has found no mass market impairment, the Commission has seen fit to allow unbundling for three full years. Given the *USTA* court's emphasis on the significant social costs that unbundling imposes, it is legally problematic to require unbundled switching for *three years* when there has been an *express finding* of no impairment. I concede that the Commission is permitted to afford a reasonable transition to avoid undue customer disruption, but this period is nothing of the sort. Its true intent is made obvious by allowing unbundling clear through the Commission's next comprehensive

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[36] "Factor based" unbundling requirements have been tried by this Commission before, to little consistent effect. In the *UNE Remand Order*, the Commission created a straightforward 4-part test for unbundled packet switching. Despite this objective test, state commissions took diametrically opposed views of whether packet switching should be required. *Compare* Arbitration Award, Case No. 01-1319-TP-ARB, at 52 (Pub. Utils. Comm'n of Ohio, Nov. 7, 2002) ("the criteria" of the FCC's packet switching rule "should be evaluated on an RT-by-RT basis or location-by-location basis") *and* Final Order on Arbitration, Docket No. 010098-TP, order No. PSC-02-0765-FOF-TP, at 16 (Fla. Publ. Serv. Comm'n, June 5, 2002) (FCC's packet switching rule "contemplates a case-by-case analysis of whether [the four] conditions are met at specific remote terminals") *with* Order on Rehearing, Docket No. 00-0393, at 36 (Ill. Comm. Comm'n, Sept. 26, 2001 ("We reject Ameritech's notion that these situations must be viewed on an RT by RT basis.").

[37] The majority makes much of the fact that its approach responds to the *USTA* court's demand for granularity. Yet, in response to this decision, the states have already organized themselves into regional and national cooperatives that appear to be a far cry from the localized, market-specific findings the majority expected them to arrive at. *See* www.naruc.org/programs/trip/index.shtml.

unbundling review. This is not a decision that supports the transition to facilities-based networks; it is a decision that cleverly pushes UNE-P along until the next UNE review.

2. The Majority's Approach to Revenue Impairment is Inconsistent with the *USTA* Decision

Since we voted this item on February 20th, the Majority has attempted to harmonize the switching framework with other sections of the item. Turning heads to tails, the Majority now argues that dissenting criticisms of the switching approach rest on a mischaracterization of the *USTA* decision and are otherwise inconsistent with sections of the Order to which I have approved. This criticism boils down to a disagreement over the manner in which the impairment standard is *applied*. For example, the Majority's switching decision conflates an impairment standard that properly asks whether entry is "uneconomic" with the question of whether entry is profitable.[38] Under its profitability analysis the Majority directs states to consider whether price and revenue *reductions* that result from additional competitive entrants can form the basis of impairment.[39]

First, I cannot agree that the very entry this Commission should rightly encourage can form the basis for a continuing impairment. This is a staggering endorsement of a centrally managed artificial competition standard that pays little attention to the positive consumer benefits that result from facilities-based competition. Second, I am at a loss to understand how a well-intentioned state commissioner can implement this decision. Is a 10 percent price reduction cause for impairment? 20 percent? It is quite simply an *ad hoc* calculation, permitting any result whatsoever. Third, this approach endorses a least common denominator circularity that is not faithful to the statute. If a first mover enters a market and is followed by a second entrant, can this be grounds to say that the third is impaired? The third entrant is not impaired, rather three is merely one too many for the market to sustain. Such regulatory calculus impedes the proper functioning of a market, which signals the right levels of scale and scope. The Majority's switching construct ignores the fundamentals of economics.

Furthermore, it is widely accepted that because of universal service cross subsidies, many residential rates are priced below cost and, thus, the retail revenues associated with those services may, in some cases, not cover the costs incurred to provide the service. The D.C. Circuit, however, rejected the notion that competitors' decision not to enter subsidized markets

[38] Order at para. 84.

[39] The Majority notes that "potential revenues could be outweighed by a combination of even higher economic and operational costs, such as untimely and unreliable provisioning of loops, transport, or collocation by the incumbent LEC at high non-recurring charges and significant costs to purchase equipment and backhaul the local traffic to the competitor's switch." Order para. 458.

with their own facilities demonstrates impairment.[40] In this situation, it is the retail rate structure that causes impairment, not the incumbent's monopoly position in the market. Thus, to the extent that the Majority's approach to revenue-impairment includes an analysis of artificially low retail voice rates, it is specifically barred by *USTA*.

B. The Majority Fails to Reach a Conclusive Finding of No-Impairment in Competitive Business Markets

In the business market, the Majority permits states to unbundle switching for business customers without a thorough analysis of sufficiently granular facts. As discussed above, my primary objection to the Commission's initial vote was the complete transfer of decision making authority to state commissions through a series of unreviewable presumptions of impairment.[41] I am pleased that in the released decision the Majority has jettisoned its initial presumptive approach to business switching.[42] In its place however, it has provided a procedural mechanism that provides for UNE-P in a segment of the market where facilities-based competitors have been the most successful. The record shows that more than 200 competitors have deployed more than 1,300 switches nationwide addressing 86 percent of Bell Operating company wire centers.[43] I

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[40] The D.C. Circuit stated that "[I]f competition performed with ubiquitously provided ILEC facilities counts, the more unbundling there is, the more competition," but then explained that if fact this competition does not support the goals of the Act because it is "completely synthetic." *USTA,* 290 F.3d at 422, 424.

[41] I appreciate the willingness of my colleagues to reform parts of their unbundling approach in response to my concerns at that time; but ultimately the Majority's approach has fallen short of the mark. On February 20, I dissented to the Majority's switching approach because unlike our impairment frameworks for transport and high-capacity loops, the Majority's switching decision made no findings at all and ensured that the transfer of ultimate decision making to the states was complete by withdrawing an appeal right to this Commission. Today the released version of the item does not use a pure presumptive approach but finds that the "hot cut" process currently inflicts a nationwide impairment on competitive LECs for mass market customers that only unbundled switching cures. The Majority declares that "[o]ur national finding of impairment is based on the combined effect of all aspects of the hot cut process on competitors' ability to serve mass market voice customers." Order para. 473. In the business market, today's order adopts a national non-impairment finding, but provides a vehicle for state commissions to place switching on the list. I remain concerned that this approach renders the finding inconclusive and permits states to overturn the Commission's judgment.

[42] The Order's initial approach completely released its unbundling decision to the states without a right of appeal to this Commission, thereby "totally abdicat[ing] its ultimate responsibility for enforcing the [statutory] provision." *American Civil Liberties Union v. FCC*, 823 F.2d 1554, 1574-75 (D.C. Cir. 1987). Now the Majority relies on a state waiver process to protect against charges that it has avoided its responsibilities to determine which network elements should be unbundled.

[43] *See* BOC UNE Fact Report at I-9. The Majority's national business switching "findings" are presumptions by another name. Indeed the Majority notes that states may "rebut that finding based on a more granular inquiry." Order para. 451 n. 1375. In adopting this approach the Majority tests the limits of its authority and may well have, in effect, avoided the statutorily prescribed impairment test by means of a rebuttable presumption. The D.C. Circuit has explained that an "agency is not free to ignore statutory language by creating a presumption on grounds of policy to avoid the necessity for finding that which the legislature requires to be found." *United Scenic Artists, Local 829 v. NLRB*, 762 F.2d 1027 (D.C. Cir. 1987).

am concerned that state decisions endorsing UNE-P, particularly to serve small enterprise customers, may devalue the assets of providers serving these markets and exert pressure on legitimate facilities-based providers to begin using UNE-P. Instead of providing for a waiver process that allows states to unbundle UNE-P for business customers, I believe the record fully supports conclusively removing unbundled switching to serve business customers, subject to an appropriate transition to protect against customer disruption.

IV. The Majority Made Incongruous Compromises

I am concerned that there are incongruous compromises apparently designed only to preserve UNE-P. Take the Majority's decision on line sharing. Companies such as Covad presented specific, credible arguments that competitors are impaired without line sharing. The public statements of some of my colleagues make very clear that a majority of the Commission actually supported line sharing, yet it was sacrificed to secure votes to achieve the higher priority of indefinitely preserving UNE-P.[44] Courts have been quick to reverse agencies when they engage in "unprincipled compromises of Rube Goldberg complexity." *Schurz Communications Inc. v. Federal Communications Commission*, 982 F.2d 1043, 1050 (1992). With this in mind, we need to more fully explain the claim that competitors are not impaired without line sharing. One could have responsibly accepted or rejected Covad's arguments, but the claims should rise or fall on the merits. Here, members of the Commission seem to credit the merits, but nonetheless sacrificed parties who rely on line sharing in order to achieve something wholly unrelated and of little interest to companies like Covad.[45]

V. Conclusion

I believe this decision will prove too chaotic for an already fragile telecom market. In choosing to abdicate its responsibility to craft clear and sustainable rules on unbundling to the state commissions the Majority has brought forth a molten morass of regulatory activity that may very well wilt any lingering investment interest in the sector. And, I fear as much or more for competitors as I do incumbents, for the prolonged uncertainty of rights and responsibilities may prove stifling.

The nation will now embark on 51 major state proceedings to evaluate what elements

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[44] "I would have preferred to maintain this access, known as line sharing." Separate Statement of Commissioner Michael Copps, February 20, 2003. "There has been a great deal of comprise [sic] in this process. I am very comfortable with some of the decisions, while others quite frankly give me pause." Separate Statement of Commissioner Jonathan S. Adelstein, February 20, 2003.

[45] I expect that even this decision is cold comfort for providers who depend on line shared inputs to provide service. When the Commission voted on this item on February 20th, it was clear that it did not grandfather existing customers. Today, the Commission decides that carriers are impaired for grandfathered customers and orders continued access to line sharing. At the same time, however, the Majority concludes that this impairment mysteriously vanishes for new customers because of the presence of whole loop alternatives. The item does not explain why whole loop alternatives are not good enough for grandfathered customers.

will be unbundled and made available to competitors. These decisions will be litigated through 51 different federal district courts. These 51 cases will likely be decided in multiple ways—some upholding the state, some overturning the state and little chance of regulatory and legal harmony among them at the end of the day. These 51 district court cases are likely to be heard by 12 Federal Courts of Appeals—do we expect they will all rule similarly? If not, we will eventually be back in the Supreme Court of the United States to resolve any conflicts—the same Court that vacated our excessively permissive unbundling regime in 1999. This process will take many years and will hardly be the quieting and stabilizing regime that was so craved by a rocky market. It is, in short, a litigation bonanza.

This Majority's UNE-P decision could prove harmful to consumers in the long-run, and I cringe to see their welfare raised on the staff of the Majority's decision. Make no mistake, UNE-P may have very limited merits as a transitional strategy, but it is fatally flawed as sustainable local competition. This is not the low lying plateau on which the high aspirations of the 1996 Act should be planted. It is a model that only works if hundreds of stars align perfectly and stay that way: every state needs to continue to make every last element available; every decision to do so must be sustained by every court that examines it; the Commission must never tamper with it and Congress better not ever alter the rights. The regulatory arbitrage bubble expands ever more perilously with each regulatory variable and is sure to eventually pop, like dot coms of old, if government policy does not diligently steer the balloon to stable ground.

There are great strides being made today in the march of Digital Migration, which realize some of my most important objectives. I am disappointed, however, by today's decision on UNE-P. Nonetheless, it is the fair result of a democratic institution in which Majority rules. I also recognized that state commissions will now have an enormous task before them and I sincerely wish them the very best as they struggle through what the Commission could not. I pledge to work with them in partnership to yield the best result for the nation. And, I sincerely hope that those carriers who fought so fiercely for this result will now prove their value in the marketplace and actually deliver the local competition, lower prices and more innovative services that they insisted they would if they prevailed. I, for one, will be watching. This has been a tough proceeding, but I look forward to getting it behind us and moving to other matters pressing for the Commission's attention.

SEPARATE STATEMENT OF
COMMISSIONER KATHLEEN Q. ABERNATHY
APPROVING IN PART AND DISSENTING IN PART

Re: Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket Nos. 01-338, 96-98 & 98-147, Report and Order and Further Notice of Proposed Rulemaking (rel. August 21, 2003).

The release of this Order and Further Notice concludes a long and difficult chapter in the Commission's review of its rules regarding unbundled network elements. As I explained upon adoption of the Order,[1] I strongly support the decision to create a national policy that exempts new broadband investment from unbundling at deeply discounted TELRIC rates. This bold action should restore incentives for carriers to build next-generation fiber-based networks that will support a host of exciting new broadband applications. I also support ensuring access to the bottleneck transport and loop elements that are critical to the continued development of facilities-based competition, and I am encouraged that my colleagues have unanimously supported my call to seek comment on proposed modifications of the pick-and-choose regime.

Nevertheless, I remain disappointed by the Commission's decision to perpetuate reliance on the unbundled network element platform (UNE platform or UNE-P) in the face of widespread switch deployment by competitive LECs. While the majority has modified the unbundled switching framework since the February 20 decision, and I am gratified that their changes address some of my previously stated concerns, the majority's framework still falls short. The core flaw in the decision — its failure to impose meaningful limits on the availability of unbundled switching — unfortunately remains. Indeed, the majority's framework all but ensures that state commissions will preserve UNE-P in virtually all markets throughout the country for CLECs serving mass market customers. The Communications Act and the D.C. Circuit's *USTA* decision plainly preclude such an approach. Moreover, from a policy perspective, I would have placed greater faith in market forces and facilities-based competition where CLECs have deployed their own switches. Relying on state commissions to apply a convoluted regulatory framework inevitably will produce disparate results in similarly situated markets and will engender litigation in each and every state for years to come. I believe we should have brought far greater certainty to a turbulent market that craves it. I therefore dissent from the majority's treatment of unbundled switching.

I also dissent from the portion of the item concerning line sharing. The question of impairment regarding the high-frequency portion of the loop presents a close call on which

[1] Press Statement of Commissioner Kathleen Q. Abernathy, *Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; and Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket Nos. 01-338, 96-98 & 98-147* (February 20, 2003).

reasonable minds can differ. But I cannot discern any lawful basis for grandfathering all existing line sharing arrangements. In light of the majority's determination that competitors are not impaired without access line sharing, the Commission plainly lacks authority to mandate unbundling indefinitely for existing customers.

I elaborate below on the two most pressing issues in this proceeding, broadband loops and unbundled switching, and I further explain my reasons for dissenting from the line sharing decision.

A. Broadband Loops

One of the 1996 Act's most important mandates, and accordingly one of my core goals as a Commissioner, is to facilitate the deployment of broadband infrastructure. The key question posed in this proceeding is *how* we should accomplish that end. The answer, in my view, is to remove regulatory obstacles to deployment and thereby ensure that network owners have adequate incentives to make the costly and risky investments needed to deliver broadband to all Americans.

The stakes in this debate could hardly be higher: While the FCC has been pondering the appropriate unbundling framework for broadband facilities, capital expenditures have fallen off a cliff. Carriers and equipment manufacturers alike have laid off thousands of workers, and bankruptcies have become commonplace. Despite our historical global leadership in communications technology and deployment, several other countries now surpass the United States in terms of broadband penetration and performance. American service providers and equipment vendors have been forced to slash research and development budgets and this trend is not easy to reverse.

Faced with this situation, the Commission is forced to balance two sometimes competing goals in the statute: preserving carriers' incentives to invest in new facilities, on the one hand, and providing competitive access to incumbents' networks, on the other. I believe that the balance we strike should vary both with the degree of new investment at issue and the bottleneck nature of the facility in question. At one end of the spectrum is fiber-to-the-home (FTTH) investment, which entails a complete replacement of legacy facilities (or entirely new construction in greenfield situations) and thus imposes immense costs and risks on incumbents as well as new entrants. The Order accordingly refrains from unbundling these new, non-bottleneck FTTH facilities. At the other end of the spectrum is existing copper plant. Granting competitors access to copper loops or to the high-frequency portion of the loop (line sharing) in my view does not create any real disincentive to invest, because the loops in question already exist and the electronics used to provide line sharing already have been exempted from unbundling. As discussed below, I therefore believe that the majority should have preserved our line sharing requirements.

I am heartened by the Commission's decision to provide significant regulatory relief for new broadband investment. I firmly believe that this decision, in due time, will bring consumers the benefits of increased investment and innovation — which translates into better, faster, more

robust services. I also believe that consumers will benefit from broadband competition — both intermodal (from cable modem, wireless, satellite, and powerline broadband providers) and intramodal (from competitive LECs using their own facilities and incumbents' loops and subloops). And because the telecom sector has become such an important driver of overall fiscal health, I expect that regulatory relief for broadband will serve as a much-needed stimulant to the economy.

B. Unbundled Switching (UNE-P)

While I enthusiastically support the decision to remove regulatory obstacles to broadband deployment, I remain opposed to the majority's resolution of the unbundled switching issue. As described in detail below, the majority seems intent on preserving UNE-P in virtually all markets throughout the country in spite of the widespread deployment of CLEC-owned switches in most areas.

As I indicated in February, I believe the statute does not permit this Commission to transfer ultimate decisionmaking authority to the state commissions. I thus dissented on the ground (among others) that, unlike our impairment frameworks for interoffice transport and high-capacity loops, which conclusively find an absence of impairment in markets where a threshold number of competitors have deployed alternative facilities, the majority's decision on switching made no findings at all.[2] Throughout this proceeding, and in particular in my February 20 statement, I argued that there were a number of reasonable options proposed in the record, including pegging non-impairment findings to deployment of a threshold number of switches in a LATA (or other geographic area) — an approach backed by two respected former Chairpersons of NARUC's Telecommunications Committee.[3] The one thing I was not willing to do was transfer the ultimate decision on the presence of impairment to the state commissions.[4]

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[2] Rather, the majority merely adopted presumptions that gave state commissions virtually unfettered discretion to make impairment findings based on a myriad of factors. Particularly problematic was the majority's refusal to find non-impairment even where CLECs seek unbundled switching to serve enterprise customers at a DS-1 capacity and above; in spite of overwhelming record evidence demonstrating that dozens of CLECs serve such customers using self-provisioned switches, the majority was only willing to adopt a presumption of non-impairment, which states were free to overcome at their discretion. Aggrieved parties could not appeal state impairment findings to the Commission, ensuring that states would exercise the ultimate decisionmaking authority.

[3] *See* Joint Statement of Bob Rowe, Chairman, Montana Public Service Commission, and Joan Smith, Commissioner, Oregon Public Utility Commission (Jan. 30, 2003).

[4] As I explained in my statement accompanying the February 20 decision, the Commission plainly may not abdicate its statutory responsibility under section 251(d)(2) to determine which network elements shall be unbundled. As Justice Scalia explained for the Court in *Iowa Utilities Board*, "the question . . . is not whether the Federal Government has taken the regulation of local telecommunications competition away from the States. With regard to matters addressed by the 1996 Act, *it unquestionably has*." *AT&T v. Iowa Utils. Bd.*, 525 U.S. 366, 378 n.6 (1999) (emphasis added); *see also id.* (opining that the notion of "a federal program administered by 50 independent state agencies is surpassing strange"). Other courts also have made clear that the FCC may not thwart Congress's intention to create a federal scheme by surrendering its ultimate decisionmaking authority. *See, e.g.*, *American Civil Liberties Union v. FCC*, 823 F.2d 1554, 1574-75 (D.C. Cir. 1987) (affirming that "the *ultimate* responsibility for (continued….)

The released version of the majority's decision does not utilize a rebuttable presumption of non-impairment in the enterprise market, but instead makes a national finding of non-impairment. For mass market customers, the majority has found impairment on a national level and mirrored the consensus approach to transport and high-capacity loops by adopting federal triggers that (theoretically, at least) require states to make non-impairment findings in certain circumstances. As described below, however, the majority's framework still falls short in a number of respects.

The majority's revised impairment framework for unbundled switching used to serve mass market customers provides only illusory constraints. The majority's failure to account for the extensive deployment of circuit switches by CLECs and its failure to limit unbundling to situations where entry would be uneconomic in its absence flout the clear mandate of the D.C. Circuit in the *USTA* decision.[5]

In particular, the majority directs state commissions to find non-impairment where there are three competitor-owned switches deployed in a particular geographic area — *unless* those switches are being used only to serve enterprise customers.[6] This exception completely swallows the rule: While more than 200 competitors of all sizes have deployed circuit switches — totaling approximately 1,300 nationwide[7] — the majority declares that these simply do not count. The majority assumes away the existence of virtually all CLEC-owned switches because, with a limited number of exceptions, CLECs have chosen not to serve mass market customers using their own switches. The majority attempts to justify its exclusion of most existing circuit switches by characterizing them as "enterprise switches" — as if they were a different species of equipment. In actuality, the very same switches can be used to serve customers of all sizes and classes. The majority's assertion that CLECs cannot economically serve residential or small business customers using their own switches is unavailing for two principal reasons, even apart from the fact that some CLECs *are* in fact serving mass market customers on a UNE-L basis.[8]

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ensuring a 'national policy' . . . lies with the federal agency responsible for administering the Communications Act" and upholding FCC rule at issue on ground that "the Commission has *not totally abdicated its ultimate responsibility* for enforcing the [statutory] provision," and thus did not thwart "Congress' efforts to establish a federal standard") (emphasis in original).

[5] *USTA v. FCC*, 290 F.3d 415, 425-28 (D.C. Cir. 2002).

[6] The majority also declares that state commissions must find a lack of impairment where there are two wholesale switching providers apart from the incumbent LEC, but the majority readily acknowledges that no wholesale switching market exists.

[7] Order at para. 436.

[8] *See BOC UNE Fact Report* at I-9, Figure 6-*Use of UNE Platforms by CLECs Providing Service to 25,000 or More Residential Lines Using Their Own Switches* ("CLECs providing service to 25,000 or more facilities-based residential lines include: ALLTEL, Broadview, Cavalier Telephone, Intermedia, Knology, McLeodUSA, RCN, TDS, TOTALink"); WorldCom Reply at 144 (stating the Cavalier is a "small competitive LEC experimenting with a UNE-L strategy"). *See also* Letter from Joseph O. Kahl, Director, Regulatory Affairs, RCN Telecom Services, (continued….)

First, the majority simply ignores the possibility — indeed, likelihood — that CLECs are generally refraining from using their own switches to serve mass market customers *because of the availability of UNE-P*. Why undertake the cost of connecting loops to your own switch if you can avoid investing any capital or taking any risk by purchasing the entire platform at a superefficient TELRIC price?[9] Bootstrapping from the pervasive reliance on UNE-P to justify the continued availability of UNE-P is hardly the kind of rigorous impairment analysis required by Congress and the reviewing courts.

Second, the majority makes unwarranted assumptions about incumbent LECs' ability to connect loops to competitors' switches in a timely, reliable, and cost-effective manner. While incumbent LECs have submitted declarations attesting to their willingness and ability to handle any requested volume of hot cuts, the majority concludes that "it is *unlikely* that incumbent LECs will be able to provision hot cuts in sufficient volumes absent unbundled local switching in all markets."[10]

Such a predictive judgment *might* warrant deference if the Commission were writing on a blank slate, but we are not. In granting 37 section 271 applications by February 20 (now 43 applications), the Commission found time and again that the BOCs' hot cut processes are timely, cost-effective, and accurate.[11] The Commission cannot wipe these findings away by questioning whether the BOCs would be able to meet increased volumes in the absence of UNE-P. To the

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Inc. to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Jan. 23, 2003); Letter from Mark Jenn, Manager-Federal Affairs, TDS Metrocom. to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, 98-147 (filed Oct. 24, 2002); Florida Digital Network February 2003, Presentation to the FCC, *in* Letter from Michael C. Sloan, Counsel to Florida Digital Network, Inc., to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338 (filed Feb. 6, 2003) (all describing UNE-L strategies).

[9] The majority has great faith that batch cut processes will induce UNE-P providers to transition voluntarily to a UNE-L model, but the record does not bear this out: Despite the availability of managed hot cut processes in some states, carriers with their own switches have been *increasing* their reliance on UNE-P. *See 2002 Local Competition Report* at Tables 3 & 5; *2000 Local Competition Report* at Table 5. That is hardly surprising given that UNE-P reduces costs to the level of a hypothetical, superefficient competitor; reduces risk; and eliminates the need to invest capital in new facilities.

[10] Order at para. 468 (emphasis added).

[11] *See, e.g.*, *Joint Application by BellSouth Corp., BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc. for Provision of In-Region, InterLATA Services in Georgia and Louisiana*, CC Docket No. 02-35, 17 FCC Rcd 9018, 9146 (2002) (finding that BellSouth provisions hot cuts "in a timely manner and at an acceptable level of quality, with a minimal service disruption and a minimum number of troubles"); *Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance, Pursuant to Section 271 of the Telecommunications Act of 1996 To Provide In-Region, InterLATA Services in Texas*, CC Docket No. 00-65, 15 FCC Rcd 18354, 18486-95 (2000) (same); *Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act To Provide In-Region, InterLATA Service in the State of New York*, CC Docket No. 99-295, 15 FCC Rcd 3953, 4104-4115 (1999) (same).

contrary, in evaluating the BOCs' operational support systems, the Commission affirmatively found that the BOCs "will be able to handle reasonably foreseeable demand volumes."[12] At a minimum, to avoid an arbitrary departure from Commission precedent, the majority should have presumed that the BOCs' hot cut processes are workable in states for which section 271 authority has been granted. In those states and others, it would have been perfectly appropriate to authorize state commissions to impose strict performance standards, and to require switch unbundling as a post-hoc remedial measure in the event of an ILEC's unsatisfactory performance. Indeed, I favored such an approach to avoid backsliding. But to assume failure at the outset and make a *nationwide* finding of impairment — in the face of the Commission's repeated findings regarding the adequacy of BOC hot cut processes — is plainly unjustified. The Supreme Court has made clear that the burden of demonstrating impairment rests with the Commission;[13] we cannot mandate unbundling on the ground that that the BOCs have not yet *proven* non-impairment. In addition, since the Supreme Court has made clear that "[t]he Commission cannot, consistent with the statute, blind itself to the availability of elements outside the incumbent's network,"[14] the majority certainly cannot blind itself to the availability of the CLECs' own already-deployed switches.

Given the illusory nature of the switching triggers, as a practical matter, the only way a state can make a finding of non-impairment for CLECs serving mass market customers is if it finds that each and every one of a long list of potential entry barriers have been overcome (*see* Order at paras. 511-20). The majority states that, while CLEC switches that are serving enterprise customers cannot be counted for purposes of the "triggers," such deployment nevertheless should be given "substantial weight."[15] But this is mere lip service. The majority's multifactor test starts with a default presumption of impairment and cannot be overcome unless every conceivable obstacle to profitability has been eliminated. In this respect, it is essentially the same flawed framework that has been twice rejected by the reviewing courts.[16] This

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[12] *New York 271 Order*, 15 FCC Rcd at 3993 (setting standard that has been deemed satisfied in each section 271 approval order). The majority asserts that demand for unbundled loops in the absence of UNE-P could not have been reasonably foreseen at a time when many section 271 applications were granted as a result of UNE-P competition. Order at para. 469 n.1435. This assertion ignores the fact that UNE-P competition was practically non-existent in numerous states where section 271 applications were granted. More fundamentally, it is hard to fathom how the majority can square their assertion that increased volumes of hot cuts were unforeseeable with their characterization of UNE-P as a transitional mechanism designed to promote facilities-based competition. In other words, if we all agree that facilities-based competition has long been the Commission's goal (and in some cases is a reality already), then it is untenable to contend that increased volumes of hot cuts were not "reasonably foreseeable."

[13] *Iowa Utils. Bd.*, 525 U.S. at 390-91.

[14] *Id.* at 389.

[15] Order at para. 508.

[16] Indeed, the majority's "all relevant factors" approach, Order at para. 458, is essentially the same as the totality-of-the-circumstances approach in the *UNE Remand Order*, which was struck down in *USTA*.

approach fails to heed the Supreme Court's mandate to avoid providing blanket access and instead impose a limiting standard rationally related to the goals of the Act.[17] It even more starkly violates the D.C. Circuit's instruction that the Commission's impairment framework cannot be based on "an open-ended notion of . . . cost disparit[ies]."[18]

First, the majority directs states to consider "operational barriers" before making any finding of non-impairment. Specifically, a state would have to conclude that "the incumbent's facilities, human resources, and processes are sufficient to handle adequately the demand for loops, collocation, cross-connects, and other services required by competitors."[19] The majority fails to recognize, however, that remedies far less intrusive than unbundling — such as performance metrics tied to penalty payments for poor performance — have been found adequate (during the section 271 process and otherwise) to address such issues. Indeed, the costs, delays, and physical constraints associated with collocation[20] already have been addressed through rules adopted pursuant to section 251(c)(6). Perhaps state and federal regulators need to improve their oversight and enforcement, but any failings on regulators' part cannot be considered impairment.

Second, and just as problematically, the majority lists a number of "economic barriers" that also must be overcome to warrant a finding of non-impairment. The majority directs states to examine both revenues and costs in a manner that seems destined to perpetuate reliance on UNE-P. For example, states must consider the retail revenues a CLEC would earn from serving residential customers; presumably, if those revenues are low, that would warrant a continued finding of impairment. Here, again, the majority engages in bootstrapping, rather than an appropriately limited impairment analysis: If states have set residential rates artificially low, for example in rural areas, that would justify continued reliance on UNE-P under the majority's framework, even though the real barrier to competition is the retail rate structure (which states are free to change), as opposed to a natural monopoly cost. Thus, the majority still has failed to explain how "want of unbundling can be said to impair competition in such markets, where, given the ILECs' regulatory hobbling, any competition will be wholly artificial."[21]

On the cost side of the equation, the majority instructs state commissions to consider "the recurring and non-recurring charges paid to the incumbent LEC for loops, collocations, transport, hot cuts, OSS, signaling, and other services and equipment necessary to access the loop."[22] And, as if that were not enough, states also must somehow determine "an entrant's

[17] *Iowa Utils. Bd.*, 525 U.S. at 388-90.

[18] *USTA*, 290 F.3d at 426.

[19] Order at para. 512.

[20] *Id.* at para. 513.

[21] *USTA*, 290 F.3d at 422.

[22] Order at para. 520.

likely market share, the scale economies inherent to serving a wire center, and the line density of the wire center; . . . the impact of churn on the cost of customer acquisitions; the cost of maintenance, operations, and other administrative activities; and the competitors' capital costs."[23] Among other problems, the majority overlooks the fact that recurring and non-recurring charges for collocation, transport, hot cuts and the like are already set at TELRIC prices. Permitting findings of impairment based on such costs is another example of impermissible bootstrapping, given that these inputs are priced based on a hypothetical, forward-looking cost model that sets wholesale rates below the incumbent LEC's own embedded costs. In other words, unbundled transport, loops, and other UNEs are the *remedy* for impairment, not a source of it.[24] Moreover, in telling states to consider whether "rolling UNE-P" can mitigate any impairment resulting from the above factors, the majority further violates *USTA*. If a competitor can quickly overcome a temporally limited startup disadvantage — such as a high churn rate experienced during the first few months of service — then the Commission should conclude that there is no impairment at all, given that new entrants in all industries typically must operate at a loss for an initial period.[25]

At bottom, the majority's open-ended framework does nothing to prevent state commissions from finding impairment based solely on their "belief in the beneficence of the widest unbundling possible."[26] A state need only cite low retail rates, or high startup costs, and it may preserve UNE-P forever, notwithstanding that numerous CLEC-owned switches may be available for use serving mass market customers. Thus, rather than narrowly employing switch unbundling to alleviate natural monopoly conditions, as the courts have instructed, the majority has told states they may treat switch unbundling as a cure-all. If the hot cut process is not functioning properly, despite the Commission's findings in the section 271 proceedings, they say: unbundle the switch. If transport costs are high, unbundle the switch. If collocation and cross-connect take months to provision, unbundle the switch. As we have been told in successive decisions vacating our rules, the law does not permit such extensive and indiscriminate use of the unbundling remedy.[27]

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[23] *Id.*

[24] I recognize that high backhaul costs and other expensive inputs do in fact make it difficult for CLECs to compete in rural areas, where retail rates are quite low, but, far from demonstrating impairment, this signals the need for rate rebalancing.

[25] *See USTA*, 290 F.3d at 427 ("To rely on cost disparities that are universal as between new entrants and incumbents in *any* industry is to invoke a concept too broad, even in support of an initial mandate, to be reasonably linked to the purpose of the Act's unbundling provisions.")

[26] *Id*.

[27] In my February 20 press statement, I noted that the majority had abandoned the previous four-line limit that prevented competitors from purchasing unbundled switching to serve most business customers. The majority now announces that it is preserving that limit on an interim basis. Once that initial period ends, however, the majority will have expanded the potential availability of UNE-P to CLECs serving business customers with up to 20 lines. *See* Order at paras. 497, 525. As noted in my earlier statement, while justifying the status quo seems difficult enough, it is even harder to see how a potentially massive *expansion* of UNE-P, in the face of evidence that dozens (continued….)

C. Line Sharing

Finally, I also dissent from the majority's decision to eliminate line sharing. This is a close call, but, on balance, I believe that line sharing provides substantial procompetitive benefits without unduly constraining investment by incumbent LECs. Unlike the prospect of unbundling fiber-to-the-home loops or next-generation hybrid architectures, the record suggests that line sharing spurs ILEC investment in DSL, rather than retarding it. The reason is that, by definition, line sharing is available only over legacy copper loops — there is simply no loop upgrade that incumbents are deterred from making. Thus, as we weigh the goals of competitive access and promoting investment in new facilities, the balance favors reinstatement of a line-sharing obligation.

I am certainly mindful of the arguments against line sharing. For example, cable modem providers, rather than DSL providers, currently lead the broadband marketplace, making a line sharing obligation for LECs alone somewhat incongruous. Moreover, data LECs can obtain an entire unbundled loop and provide a combination of voice and data service, as the incumbent LECs do. Yet I believe that the record rebuts these arguments. Most importantly, the presence of cable modem service in many (but not all) local markets does not seem sufficient to support a blanket finding of non-impairment for telecommunications carriers seeking to provide DSL service. I am also sympathetic to the argument that a carrier should not be forced to enter the voice telephony market simply to provide competitive DSL service. On balance, I cannot join the majority's decision to eliminate line sharing because the record demonstrates that line sharing promotes competition *and* investment. But the issue is, as noted, a close call, and I can appreciate the legal reasoning underlying the conclusion that carriers are not impaired without access to the high frequency portion of the loop (HFPL).

By contrast, I have significant concerns about the majority's post-adoption decision to grandfather existing customers indefinitely. In light of the majority's finding of non-impairment, and its resultant decision not to unbundle the HFPL, there is plainly no basis to require incumbent LECs to continue unbundling the HFPL indefinitely for existing customers. The majority attempts to couch this as a "transitional" mechanism, but these grandfathered customers are not being transitioned *to* any new carrier or arrangement. And the fact that the Commission will have an opportunity to revisit this decision during the next Biennial Review does not provide any certain end date. Rather, CLECs will continue to service such customers using the TELRIC-priced HFPL, notwithstanding the majority's unequivocal determination that the HFPL is no longer an unbundled network element under section 251(c)(3). This decision is inconsistent with the rule of law.

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of CLECs serve business customers of such size using their own switches, can possibly be squared with *USTA*.

In conclusion, the Order is a decidedly mixed result in my view. It scores a big win for consumers by promoting broadband investment, but it potentially undermines that victory by turning unbundled switching into a regulatory morass that carriers will be stuck in for years to come. I therefore approve in part and dissent in part.

SEPARATE STATEMENT OF
COMMISSIONER MICHAEL J. COPPS
APPROVING IN PART, CONCURRING IN PART, DISSENTING IN PART

Re: *Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (CC Docket No. 01-338)*

Seven years ago, Congress enacted a sweeping reform of our nation's telecommunications laws. In doing so, it sought to promote competition in all telecommunications markets and replace the heritage of monopoly with the vitality of competition. Provisions to open the local markets to competition are at the very heart of this Congressional framework. The Act contemplates three modes of competitive entry into the local market—construction of new networks, use of unbundled elements and resale of services. The competition envisioned in the legislation only now is becoming a reality. Today, because of the vision of Congress and the hard work of American entrepreneurs across the country, there are nearly 25 million competitive lines serving consumers. As the Commission's own data on local competition reflect, this number has continued to grow even during the economic downturn that the telecommunications industries and the nation as a whole have suffered. This proceeding offered us the opportunity to encourage this competition and fulfill the mandate of the law, which is "to secure lower prices and higher quality for American consumers."

In some ways, our action advances that mandate. We chart a course that preserves burgeoning voice competition in the local markets and steers it in the direction of further growth. We accord the states an enhanced role in making the granular determinations about where the rules of the game may need to be changed and where they should be maintained in order to foster competition. In other equally important ways, however, we fail our charge. The majority decision plays fast and loose with the country's broadband future, denying it the competitive air it needs to breathe in order to flourish. Consumers, innovation and the Internet may well suffer.

This decision is not just a big-ticket item for telecommunications companies on one side or another of a set of complex and arcane issues. It affects us all. It is next month's telephone bill. It is also the next generation's broadband deployment. It is the future of the Internet. It will deeply affect our country's future.

As a result, this proceeding has been the subject of heated debate. Although our decision is plagued by shifting pluralities, I appreciate the willingness of my colleagues to engage in discussion to find common ground. In my own review I have tried always to keep in mind that setting competition policy is the exclusive jurisdiction of Congress. I have done my utmost to remain faithful to the public interest and to the competitive framework that Congress adopted in the 1996 Act. I believe those aspects of the decision I support and those I concur in are consistent with Congressional intent. Where I am unable to square a decision with statutory directives—no matter how hot the rhetoric—I am compelled to dissent.

I am pleased to support the rules we adopt to address the availability of local switching. In the face of intense pressure for the Commission to make broad nationwide findings on

impairment—findings that would have doomed the future of unbundled elements such as switching—we have instead managed to fashion a majority for a more reasonable process to conduct a granular analysis that takes into account geographic and customer variation in different markets. In doing so, we are able to consider the very real differences in economies of scale involved in providing service to residential and small business customers on the one hand and larger business customers on the other. We also have recognized that the states have a critical role to play in our unbundling determinations. The path to success is not through preemption of the role of the states, but through cooperation with the states. State commissions more proximate to and familiar with local markets are often best positioned to make the fact intensive determinations about impairments faced by competitors. I am therefore pleased with our decision that states should have an active role in conducting the granular analysis necessary to determine whether and where network elements such as switching should be available as unbundled network elements.

The decision regarding line sharing was a difficult one. I believe that line sharing has made a contribution to the competitive landscape. Had I the luxury of developing our list of unbundled network elements on a blank slate, I would have supported its inclusion. Our analysis in this decision, however, was etched against the very real background of the D.C. Circuit's decision ***vacating*** the Commission's line sharing rules. That decision and the record in this proceeding lead me to concur in this aspect of the Order. Circumscribed as we were here, my focus has been on providing a realistic transition and on developing carrier and consumer options. I am pleased that the decision provides an extended transition period to allow competitors to purchase the full loop facility as a network element. Carriers also may pair with competitive voice providers and collectively offer a full range of services to customers.

Critically, there are also parts of this Order with which I strongly disagree. Most importantly, I am troubled that we are undermining competition in the broadband market by limiting—on a nationwide basis in all markets for all customers—competitors' access to broadband loop facilities whenever an incumbent deploys a mixed fiber/copper loop. In essence, as incumbents deploy fiber anywhere in their loop plant, they are relieved of the unbundling obligations that Congress imposed to ensure adequate competition in the local market. The majority assures us that by somehow ignoring the intent of Congress and tearing away the infrastructure that undergirds competition, this will promote investment in advanced architectures. Rather than "new wires, new rules," I fear the majority adopts a system of "no rules, old monopolies." This is not a brave new world of broadband, but simply the old system of local monopoly dressed up in a digital cloak.

The Commission has recognized time and again that loops are the ultimate bottleneck facility. Yet, here the Commission chooses to perpetuate the bottleneck, and it does so on a nationwide basis without adequate analysis of the impact on consumers, without analyzing different geographic or customer markets and without conducting the granular, fact-intensive inquiry demanded by the courts. I fail to see how the majority finds that competitors are impaired without access to the loop, but abandons this finding the minute that fiber is found in the loop architecture. To make matters even worse, in some markets such as the small business market, there may not be any competitive alternatives if competitors cannot get access to loop

facilities. In other words, our nation's small businesses—the engines of so much entrepreneurial activity and economic growth—may be stuck without competitive choices and prices when it comes to critical broadband services. I fear this decision will result in higher prices for consumers and put us on the road to re-monopolization of the local broadband market.

As harmful as this decision is, it may not be the last battle this year in the headlong rush to deregulate broadband. Shortly, we may be considering whether to deregulate broadband entirely by removing core communications services from the statutory framework established by Congress. This strikes many, including me, as substituting our own judgment for that of the law. It is playing a game of regulatory musical chairs by moving technologies from one statutory definition to another. We will also consider whether large incumbent carriers providing broadband services should henceforth be regulated as non-dominant or lacking market power, rather than dominant and exercising market power. And we commit in this Order to reviewing the Commission's forward-looking economic cost methodology for network elements in a soon-to-be-initiated proceeding that improperly crafted could create more problems than it resolves. In light of our goals of establishing certainty and stability, I hope we can agree to not use these other proceedings to overturn our new unbundling obligations over the next few short months. But I caution that it could indeed happen.

Finally, I am troubled by the less than satisfactory process that generated this decision. When Congress passed its landmark legislation seven years ago, the Commission generally implemented its regulatory directives in a bipartisan fashion by unanimous vote, reaching consensus under extremely short statutory deadlines. By contrast, this decision was adopted in a split fashion and based on a roughly conceived outline produced under the threat of a judicial deadline. I am disappointed that we were not able to reach compromise on all of the questions and issue a unanimous decision as previous Commissions were often able to accomplish. Perhaps, given the different philosophical and regulatory approaches which exist among us, that just was not in the cards here. Nevertheless, this proceeding and our recent decision on media concentration provide serious lessons about smoothing the process within, exchanging ideas and paper earlier on, and making sure we have enough time to reach and hammer out final agreements. I also believe that the constraints placed upon independent regulatory Commissioners by laws that forbid more than two of us from meeting together, talking together and reaching agreement together hobble the regulatory process and retard our ability to tackle complex proceedings like this one. I do not know of any other institution that is forced to operate in this fashion. Perhaps the ability to manage our discussions differently would not have rescued this item—or others where the disagreement among my colleagues has been substantial—but I do think it could make a difference going forward. And we certainly have a lot of work to do going forward.

In light of the positive and negative parts of today's decision, I vote to approve in part, concur in part, and dissent in part. This has been a complex decision and a complex process. Nonetheless, I appreciate all the work that so many dedicated individuals at the Commission put in to ensure that this Order finally sees the light of day.

SEPARATE STATEMENT OF
COMMISSIONER KEVIN J . MARTIN

Re: *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order on Remand and Further Notice of Proposed Rulemaking, CC Docket Nos. 01-338, 96-98, 98-147, 02-33

Today, the Commission finally releases the Triennial Review Order, which fully explains the decisions we made on February 20th. As I stated in my February 20th statement, this Order achieves a balanced approach that provides substantial regulatory relief for broadband investment, where there is vigorous competition, while preserving and facilitating competition for local residential service – the competition that has enabled millions of consumers to benefit from lower telephone rates. While I would have liked to release the Order sooner, I appreciate everyone on the Commission's desire to explain fully their views on these very important issues. My views are explained in my February 20th statement, which is attached.

NEWS

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This is an unofficial announcement of Commission action. Release of the full text of a Commission order constitutes official action.
See MCI v. FCC. 515 F 2d 385 (D.C. Circ 1974).

FOR IMMEDIATE RELEASE
February 20, 2002

Contact: Emily Willeford
202-418-2100

COMMISSIONER KEVIN J. MARTIN'S PRESS STATEMENT ON THE TRIENNIAL REVIEW

I support this item because it achieves a principled, balanced approach. It ensures that we have competition and deregulation. We deregulate broadband, making it easier for companies to invest in new equipment and deploy the high-speed services that consumers desire. We preserve existing competition for local service – the competition that has enabled millions of consumers to benefit from lower telephone rates. And we continue the strong role of the states in promoting local competition and protecting consumers. Finally, we accomplish these goals in a manner that is consistent with the statute and the rulings of the courts.

Deregulating Broadband and Attracting New Investment

This Order takes important steps toward deregulating broadband and encouraging new investment. I have long believed that the Commission should make broadband its top priority and create proper incentives for new investment in advanced services. The action we take today provides sweeping regulatory relief for broadband and new investments. It removes unbundling requirements on all newly deployed fiber to the home. It provides regulatory relief for new hybrid fiber-copper facilities, while ensuring continued access to existing copper. And, it adjusts the "wholesale" prices for all new investment. In fact, we endorse and *adopt in total* the High Tech Broadband Coalition's proposals for the deregulation of fiber to the home and any fiber used with new packet technology.

Companies desiring to push fiber further to the home will now be able to make a fair return on their investment. And more consumers will be able to enjoy the fast speeds and exciting applications that a true broadband connection offers.

I hope this relief will jump start investment in next-generation networks and facilitate the deployment of advanced services to all consumers, including rural America. Our actions could then revitalize the advanced services market, leading to a new period of growth in telecommunications and most importantly manufacturing.

Preserving Local Competition

This Order also works to preserve local competition. The Telecommunications Act requires that competitors have access to pieces of the incumbents' networks when they are "impaired" in their ability to provide service. The Court of Appeals has made clear that in analyzing impairment, "uniform national rules" may be inappropriate. Rather, the Commission should take into account specific market conditions and look at specific geographic areas. Today's item follows these admonitions, putting in place a granular analysis that recognizes that competitors face different operational and economic barriers in different markets. For example, the barriers competitors face in deploying equipment and trying to compete are different in Manhattan, Kansas than in Manhattan, New York.

Although some of my colleagues disagreed with certain aspects of this analysis, this disagreement primarily concerns the switching network element for residential customers, a small piece of the puzzle. We all agree that states should play a significant role in determining whether impairment exists for transport. We all agree that states should play a significant role in determining whether impairment exists for loop facilities. And, we all agree that incumbents should no longer be required to unbundle switching for business customers.

Some of my colleagues also wish to end the unbundling of all residential switching immediately. I believe such action would be inconsistent with recent court decisions and the state of competition in the market. It is true that there are now a significant number of residential telephone customers that receive service from a CLEC, but *the overwhelming majority of these customers is currently served through an incumbents' switch*. To declare an immediate end to the unbundling of all switching in every market in the country would ignore the Court's mandate for a more granular analysis and effectively end residential competition. Accordingly, I support the item's approach to treat residential switching as we do other network elements, removing unbundling obligations only after a fact specific market analysis.

Maintaining a Role for State Authorities

In establishing a market-specific impairment analysis for unbundling network elements, this item provides an important role for the states. During my time at the Commission, I have witnessed first hand the helpful role that the states have played in our mutual goal of implementing the Telecommunications Act. I believe that the states are best positioned to make the highly fact intensive and local "impairment" determinations required by the Court of Appeals.

All of my colleagues agree with this principle when applied to the unbundling of transport and other network elements. Some felt, however, that we should not allow the states a role in determining the unbundling of switching. In my view, the item correctly treats switching as it does other network elements, recognizing that the states are better able to make individual, factual determinations about particular geographic markets than are federal regulators in Washington. And, just as we do for other network elements, the Commission provides the states detailed guidelines of what constitutes impairment. For example, we specifically require states

to consider and resolve problems with provisioning – the so-called "hot cut" problem. We also require states to consider whether competitors have been successfully able to deploy their own switching facilities. We provide a roadmap for states to use in making their analysis, putting us on the road to facilities-based competition.

Conclusion

I believe we have crafted a balanced package of regulations to revitalize the industry by spurring investment in next generation broadband infrastructure while also maintaining access to the network elements necessary for new entrants to provide competitive services. This Order adopts clear rules and immediate regulatory relief for broadband deployment and new investment; it removes the obligation to unbundle switches for business customers immediately; and it provides a detailed roadmap for eliminating the remaining unbundling obligations for network elements.

I believe in limited government. I believe that competition – not regulation – is the best method of delivering the benefits of choice, innovation, and affordability to consumers. The 1996 Act puts in place a policy that requires local markets be opened to competition first, and then provides for deregulation. I believe we have faithfully implemented this policy today. Where there is facilities-based competition, for example from cable modems n the broadband market or CLECs in the business market, we have provided deregulation. That is what the law and the courts require.

In sum, this Order achieves a balanced approach that provides regulatory relief for incumbents' new investment in advanced services while ensuring that local competitors will continue to have the access they need to provide service to consumers. I believe these steps will benefit consumers and the industry, and I support this Order.

- FCC -

Remarks by Commissioner Kevin J. Martin
20th Annual PLI/FCBA Telecom Conference
December 12, 2002
Washington, D.C.

"**At the Crossroads**"

Thank you, Dick, for that kind introduction. And thank you for inviting me to speak at this annual conference. The PLI and FCBA serve the communications bar so well with these informative sessions. I recall going to this one in particular as a junior associate, and I still remember how much I relied on the discussions and primers throughout much of the next year. I'm not sure that what I'll have to say today will be quite as educational as some of the speakers I heard then, but I hope at least to keep your attention. And perhaps I'll even spark a healthy debate.

I. Deliberation to Decision-Making

As most of you know, the Commission has spent almost a year collecting, reviewing, and discussing various policy proposals for local competition and broadband service. These issues are of critical importance, and certainly, a significant amount of time is needed to clearly think through the complicated legal and policy issues at stake.

At some point, however, the Commission must move to wrap up the debate and must start making the tough decisions. We must move from deliberation to decision-making.

I believe we now are at the crossroads where choices must be made. We have four critical rulemakings that have been pending since the beginning of the year: the Triennial Review of unbundled network elements, the dominant/nondominant proceeding, the wireline broadband NPRM, and the cable modem service NPRM. The records are complete, we have considered and debated the issues at length, and the proceedings are now ripe for action.

Moreover, industry conditions cry out for answers. Companies are struggling under too much debt, unable to recoup the past investments they have made. Markets are valuing companies at depressed levels, leaving companies with little capital. Carriers are postponing the purchase of the equipment necessary to deploy competitive local and advanced services, leaving the manufacturers to suffer the consequences.

As more manufacturers founder, we risk being left with too few domestic providers of critical infrastructure for advanced services, a significant threat to our national security. Finally, investors are questioning whether communications continues to be a profitable industry in which to risk capital.

I believe the prolonged uncertainty regarding such critical issues as local competition and broadband may have aggravated existing market troubles. Prolonged uncertainty can serve as a

disincentive to invest in new and upgraded facilities, as a barrier to entry for potential competitors, and as a deterrent against modifying outdated business plans. Companies need to know the rules of the road, and they need to be able to rely on them.

It is time to eliminate uncertainty and instability. We must make the difficult policy choices and conclude these four proceedings. Our decisions are vital to industry, to national security, and to the consumers who ultimately will benefit from more competitive and advanced services.

Last May, I expressed my desire that the Commission take action on these pending proceedings by the end of year. Given the potential significance of our decisions on the economic conditions, I did not think that was an unreasonable goal. Indeed, last November the Commission committed to completing the Broadband proceedings by the end of this year,[1] and the D.C. Circuit has expressed their expectation that we complete our Triennial Review this year, as well.[2] I am disappointed that we will not make it, but I am hopeful that we will act soon.

The Commission recently sought another extension of the D.C. Circuit's USTA decision mandate until February 20th, and I am beginning to become concerned with whether we will be able to make that deadline. If we are to meet that deadline, I believe we need to begin a more specific dialogue with the public, and with affected industries in particular, regarding the policy direction the FCC intends to take.

If I'm going to call for FCC action by the end of this year, however, I too must be prepared to share what I am thinking on these critical issues. Therefore, I offer the following thoughts in order to spur debate, respond to my own deadline, and to help the Commission finish its deliberative process and reach finality on these issues.

II. Principles for Decision-Making

I believe it is important for the Commission to begin with certain core values and goals. Once we have articulated and prioritized these principles, we can begin to evaluate concrete actions. Following are three principles that I believe should govern our decision making.

First, the Commission should make its top priority new investment and deployment of advanced network infrastructure. We have a number of issues before us that are vital to the marketplace and need timely resolution. Nevertheless, we must begin somewhere. I believe the

[1] *See Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in Arkansas and Missouri*, CC Docket No. 01-194, Memorandum Opinion and Order, 16 FCC Rcd 20719 at 20754 (2001).

[2] *See United States Telecom Ass'n v. Federal Communications Commission*, 290 F.3d 415 (D.C. Cir. 2002).

Commission should focus first on creating the right incentives for companies to invest in and deploy advanced services.

Until we create a stable regulatory framework for deploying and providing such services, our country's communications network and services will remain stagnant, not improving, not developing. The many people without access to advanced services now, particularly consumers in rural America, will remain without. And competition – the driver of innovation, growth, and effective pricing – will remain minimal.

Even if we correct the incentives with respect to the provision of basic telephony, and even if the market corrects its valuations of telecom carriers, companies will not invest in advanced services until we ensure that the governing regulations will not deprive companies of the ability to make a return on their investment.

Second, the Commission must minimize further questions and avoid creating greater uncertainty or prolonging ambiguity in this area. After having already taken a year to review a set of issues and debate various policy outcomes, we should resolve all of the issues, not just definitions, but also the implications on wholesale obligations. To put off the decisions that have the greatest impact on the marketplace to another day will only aggravate current market conditions and prolong the angst and uncertainty that surround the deployment of advanced services.

Third, the Commission must be responsive to the courts by outlining a clear standard on the necessary and impair test while remembering Congress's goal of ensuring that the local markets are truly open to competition. In so doing, we must address the court's criticism regarding our existing unbundling framework, while also ensuring access to essential facilities.

Priority I: A Regulatory Environment that Encourages New Investment

As you know, telecommunications has been responsible for much of this nation's economic growth during the past decade. The availability of advanced telecommunications is essential to the economy in the 21st century, dramatically reducing the costs of exchanging information, improving efficiency and productivity, and allowing previously local businesses to serve the world.

I am confident that spurring investment in the deployment of new facilities and advanced network infrastructure will lead to a new period of growth.

I believe that at the outset, there are three immediate steps the Commission can take to speed that growth and ensure that all Americans have greater access to advanced services.

1. Adjust TELRIC Pricing

First, we need to adjust the TELRIC pricing formula for all new investment on a going forward basis.

In my view, the TELRIC pricing formula provides incumbent service providers with an insufficient return on investment capital for new infrastructure.

In a nutshell, the existing TELRIC formula fails to accurately measure the true risk of capital investment under current economic conditions, and creates an unnecessary barrier for the deployment of broadband facilities.

We also need to adjust the depreciation schedules within the TELRIC formula to more adequately account for new investment. I believe that greater flexibility in depreciation time frames will provide a greater economic incentive for service providers to invest in and deploy new network infrastructure.

We therefore should conclude in the Triennial Review proceeding that we must adjust the TELRIC formula on a going forward basis to spur deployment in new facilities and services.

2. Deregulate New "Fiber to the Home"

Secondly, I believe we also need to adopt the principles set forth in recent proposals regarding the regulatory framework for new fiber investment deployed to a customer premises.

Under these proposals, "fiber to the home" facilities would be relieved from unbundling requirements and incumbents would be relieved of any obligation to deploy copper facilities in new build situations where fiber to the home is deployed. Incumbents also would have several options and obligations with respect to the existing copper plant in new build situations.

In the recent DC Circuit decision overturning our unbundled network element regime, the Court criticized the Commission for not fully taking into account the ability of new entrants to invest in and deploy new network infrastructure. I believe that it is not "necessary" for a competitor to have access to a new fiber loop.

I believe that if incumbent service providers decide to build new fiber local loops to a customer premise, they should be free of "old-style" legacy rules. Legacy rules are ill-suited for new facilities and new services in the supercharged IP and fiber broadband worlds of tomorrow.

3. Provide Regulatory Relief for Hybrid Facilities but Ensure Continued Access

In my view, new entrants should only use incumbent facilities that are truly necessary for

new entrants to provide service. That does not mean that we should allow incumbents to stop providing any elements overnight, and we need to acknowledge the distinctions among what different competitors may need to compete for small and medium-sized business or residential customers.

We also ought to reexamine how our unbundling and/or pricing rules apply to incumbent deployment of new facilities. For example, once we have determined that a particular state's market "is fully and irreversibly open to competition," how is access to yet-unbuilt new facilities at super efficient prices necessary to enable a new entrant to compete, especially if existing facilities or their equivalent capacity are maintained at current prices?

I must give Tom Tauke of Verizon credit for this policy construct. About a year and a half ago, shortly after I joined the Commission, I heard Tom give a speech where he laid out the concept of "new rules for new wires."

I believe that the Commission should freeze the service capacity level that must be made available on new or upgraded facilities to the service capacity level provided by the ILEC prior to the new investment in a hybrid facility. For example, under this approach competitors receiving access capacity at 1.54 mbs per second using pre-existing ILEC facilities would be able to continue to receive such access capacity at the same bit rate under newly deployed hybrid facilities.

I believe that incumbents should be given the proper incentives to push fiber deeper into their networks and closer to the American consumer. And such an approach actually facilitates the deployment of electronic loop provisioning which would solve many provisioning problems.

At the end of the day, ILECs should receive the benefits of making investments in new infrastructure deployment, but competitors should maintain the ability to receive access to end user customers at the service capacity levels that they currently receive.

Priority II: Minimize Further Questions and Uncertainty

These are turbulent economic times for the telecom industry and the economy as a whole. In such times, the Commission should be particularly cognizant of the impact of its decisions and that it can contribute to market stability by establishing a more stable and reliable regulatory environment. Broad proceedings that remain pending for extended periods can contribute to uncertainty. Protracted uncertainty can prolong financial difficulties. Regulatory uncertainty and delay can function as entry barriers in and of themselves, limiting investment and impeding deployment of new services.

Particularly given the current financial conditions, we should act quickly on our major pending rulemakings, particularly as they relate to new investment. Prompt decision making will provide greater certainty and stability to the marketplace.

We should work to be faster and be more reliable in our decision making. Prolonged proceedings with shifting rules ultimately serve no one's interest, regardless of the substantive outcome. It is time for the Commission to take action not only on the UNE Triennial, but also on performance measures and the broadband proceedings.

Much of the buzz that I hear from others on the potential outcome for the Broadband proceeding is centered on deregulation of the retail offering of broadband service. My sense, however, is that the question that most parties want answered is how we will ultimately decide the wholesale or input question. In other words, I think most people already assume that we are going to treat Internet access as an information service. The question that matters is the regulatory treatment of DSL and cable modem transmission.

I recognize that the Commission itself may have contributed to the continuing confusion on this issue as a result of our ambiguous and somewhat contradictory statements in the Wireline Broadband Proceeding and the Cable Modem Proceeding. In both of these items we attempted to address the appropriate regulatory framework for broadband services.

In the Cable Modem Proceeding,

(1) we determined that cable modem high speed Internet access is an information service;

(2) we decided that the Commission's Computer II unbundling obligations did not automatically apply to cable modem service; and

(3) we sought comment on whether some form of access obligations should ultimately be imposed on Cable Modem service.

In other words, in the Cable Modem Proceeding we addressed the definitional issue **and** left open the issue of whether we would impose discretionary unbundling obligations.

In the Wireline Broadband Proceeding, the Commission tentatively concluded that DSL high speed Internet access is an information service, and we asked about the implications of the Computer Inquiry II obligations and other unbundling obligations.

Some in and around the Commission have suggested that the Commission should use the same process we set forth in the Cable Modem proceeding in the Wireline Broadband proceeding.

In other words, they advocate that the Commission should address only the definitional issues and leave undecided – until some time later next year – whether and to what extent the unbundling obligations apply in the Wireline context.

I'm very concerned about – and at this stage I would not support – such an approach. We should be cognizant and clear on what the implications of that suggested approach would be.

In the Cable Modem proceeding, inaction resulted in no regulation being applied.

In the case of DSL, however, the impact of the current presumption under the Commission's decision is that unbundling obligations do apply.

Inaction by the Commission therefore leaves all of the unbundling regulations firmly in place – and only applies them to one of the two competitors.

Therefore, I see three potential courses of action:

We could treat DSL services similar to cable modem service.

In doing so, we would need to change our Computer II rules so that incumbent providers would no longer be required to provide underlying transmission services as retail service offerings. Providers nevertheless would have the incentive to provide broadband transport to unaffiliated ISPs on reasonable terms, because only by doing so could they maximize the value of their investments. Such offerings would be made available on a private carriage basis and not as unbundled tariffed offerings.

The Commission could, on an interim basis, guarantee ISPs access to broadband transmission services in a nondiscriminatory manner. Specifically, ILECs would be required to offer unaffiliated ISPs the same transmission services that the ILEC offers to its own affiliates through private carriage agreements. This nondiscrimination requirement could be put in place for two or three years, but then sunset unless the FCC extends it to all broadband providers.

Second, we could treat cable modem services similar to DSL services. Under this alternative, the Commission could leave the Computer Inquiry rules in place and apply them to all broadband providers with common carrier status. In effect, the FCC would impose the same regulatory framework on cable modem service that currently applies to wireline DSL service.

As for the third option, I believe the only other logical alternative is to classify wireline broadband as a telecommunications service, with the accompanying nondiscrimination requirements, and to acknowledge that the Commission was wrong when it declared cable modem service to be an information service. Instead, the Commission could determine that cable modem service is a cable service subject to the panoply of Title VI regulations currently applicable to cable service providers, such as local franchise obligations and service regulations.

At this stage, of the three options I have just outlined, I believe the first option – treating DSL service similar to cable modem service – is the better choice. I recognize, however, that there are merits to all three – I fail to see any merits, however, in refusing to answer the underlying question.

Priority III: Responding to the Courts

As you know, the U.S. Court of Appeals for the DC Circuit has remanded the Commission's *UNE Remand Order* – the Commission's most recent effort to set out a list of network elements that incumbent local exchange carriers must make available on an unbundled basis to competing carriers.

The Court criticized the FCC's unbundling requirement as being overly broad. The Court found the FCC had failed to take into account the competitive nature of particular geographic and customer markets. At the end of the day, we need to develop an unbundling framework that can be implemented at a more granular level and takes into account the unique issues found in rural and underserved areas.

Provisioning Issues

First, as I have stated previously, in responding to the court, the Commission cannot ignore and must address provisioning and "Hot Cut" problems that new entrants have highlighted in the record in order to ensure that impairment does not exist and to allow for access to the residential market.

Switching

I believe the Commission can adopt a relatively simple and straightforward test with regard to whether "unbundled local switching" is necessary for the provision of competitive services to consumers.

If other alternative facilities based providers exist in a market and the impairment associated with provisioning problems is addressed then switching would not need to be provided.

In other words, (1) alternative facilities providers would be required to use their own facilities, and (2) if a sufficient number of alternative providers are present, the Commission would assume that a wholesale market for switching is viable.

The unbundling obligations that reside in the Act, however, still remain viable and serve a pro-competitive purpose. In my view, the unbundling obligations are necessary and need to stay in place in those rural and underserved areas that lack alternative facilities based service providers.

At the end of the day, however, we need to recognize that if we fix existing provisioning problems that will allow competitors to easily migrate customers from the ILEC to their own facilities, then we cannot continue to require unbundling in markets where such competitive facilities exists.

Any shifts in regulatory direction, however, should be cushioned by transitional measures

and safeguards.

Several states have requested that they become more involved in our impairment analysis.

In my view, much of the current talk about state preemption is premature. I believe that the States are best positioned to make those highly fact intensive and local determinations.

During my stay at the Commission, I have witnessed first hand the role that the States have played in being helpful partners in our mutual goal to implement the Act.

I believe that the States should be implementing our standard by making the factual determination regarding the existence of alternative facilities based providers and whether, and to what extent, impairment exists with respect to the ability of new entrants to access the market.

Line Sharing

Besides addressing our unbundling framework, the DC Circuit's USTA decision also vacated the Commission's Line Sharing Rules.

The Court stated that we failed to adequately take into account alternative facility providers, specifically cable and satellite. No one denies` that Cable is the dominant provider of residential high speed Internet access services.

In my view, the Commission has no choice but to recognize this fact as it decides whether incumbent DSL providers should be treated as dominant carriers when they provide high speed Internet access services.

Therefore, I'm in favor of declaring the incumbents non-dominant in the residential high-speed Internet Access market and not re-imposing our Line Sharing obligations where a cable competitor exists for residential high speed services.

III. Conclusion

In sharing with you this afternoon my vision of how the Commission should proceed and what the future landscape should look like, I have covered a lot of ground. I'd like to leave you with some parting thoughts.

In today's marketplace, many residential consumers do have competitive, facilities-based choices for broadband services. Where a competing provider, such as cable, offers broadband service, our regulations need to recognize this reality.

In the residential narrowband, or voice-centric world, however, less facilities-based

competition exists. And our regulations also need to reflect that reality. That is why it is critical that we establish a framework, working with the States, that evaluates the true extent of facilities-based competition in markets throughout the country. We must not leave behind American consumers that live in rural and underserved areas.

I am optimistic that if the Commission follows the steps I have just outlined, we could develop a framework to encourage investment in new infrastructure and that would ensure the availability of next generation network technology for all consumers through out the nation.

By taking these steps, the Commission can establish a framework that would result in an effective tiered capacity approach agnostic to the nature of the service provider or the technology it is using, while still ensuring access to competitive providers for consumers. This framework puts cable operators and telephony providers on similar footing.

Both types of providers would have basic service obligations that remain regulated. Cable operators would be required to continue to offer basic cable; they would be subject to must carry obligations and basic tier pricing. Incumbent local exchange carriers would continue to be subject to unbundling and state supervision.

Access to capacity above that level, however, would be constrained primarily by market forces. Both types of service providers would be similarly situated with regard to how they provide broadband service. Both would be free to innovate, deploy additional capacity, and offer service in a completely unregulated tier.

As I have said, the Commission at some point must move from deliberation to decision-making. I believe we are now at the crossroads where the tough choices must be made. I recognize that I envision a very different world that exists today. The proposal I have set forth is provocative, and one with which everyone will not agree. Indeed, I will not be surprised if there are aspects with which you agree, but you do so silently, and points with which you disagree, and you do so loudly. But in the end, if the Commission is to move forward, we must engage more directly and specifically. I therefore welcome your reaction, criticism, and suggestions. Your move.

Thank you for your time.

SEPARATE STATEMENT OF
COMMISSIONER JONATHAN S. ADELSTEIN
APPROVING IN PART, CONCURRING IN PART, DISSENTING IN PART

Re: Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (CC Docket 01-338).

As reflected by my vote on this Order – approving in part, concurring in part, and dissenting in part – this proceeding presented complex and difficult choices. Ultimately, I support much of this item because it is faithful to the Act, employs an instrumental partnership with our state commission colleagues, and preserves the burgeoning competition that so many inside and outside of this Commission have worked so hard to promote. Indeed, as we release this Order, most residential consumers are only now experiencing their first taste of competition for voice services, so I am pleased that the Order will allow consumers to continue enjoying these benefits. I write separately to explain further my support for much of this item and my significant concerns about other aspects.

As I said at the time we adopted this Order, our first and foremost role is to implement the law as written by Congress. We accomplish this goal by underpinning this Order with a vigorous "impairment standard" – the limiting principle which Congress set out to restrict the availability of unbundled elements. By applying this vigorous standard to the evidence before us, we respond to the concerns of our reviewing courts and ensure that our local competitions rules will be implemented as Congress intended.[1] On balance, I believe that most of the item applies this standard correctly, in accordance with the law and to the benefit of incumbents, competitors, and ultimately consumers.

Much of this item also appropriately balances the goals of promoting competition and creating the proper incentives for both incumbents and competitors to deploy their own facilities. Most notably, the switching and transport sections establish a framework that will allow nascent competition to continue to grow. At the same time, these sections provide a pathway for the elimination of unbundling obligations where carriers can either self-deploy facilities or obtain them from alternative sources, including other technology platforms.

With respect to the broadband portions of this Order, I have supported the item where possible but have significant concerns that the Order may raise significant barriers to both competition and the deployment of advanced services to residential and small business consumers. The deployment of broadband is crucial; it has the ability to bring unique benefits to the public and, indeed, to transform communities. So I support the Order's attempts to limit unbundling obligations in those cases where competitors and incumbents stand on equal footing. I must, however, dissent from other portions of the broadband section, in particular the so-called hybrid loops section. The Order's conclusions here are inconsistent with our stated goal of

[1] *See AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 388 (1998).

promoting facilities-based competition and may pose a real danger of denying consumers the benefits of competition for advanced services.

Switching Decision Preserves Voice Competition, Benefits Consumers, and is Faithful to the Act

In this Order, we have adopted rules to address the availability of local switching in a manner that is consistent with the Act and that preserves the benefits of competition for millions of American consumers. Despite considerable pressure from the voices of dissent, we cannot ignore the reality of how difficult it is for competitors to build out and connect their networks to residential and small business consumers.

Our framework will allow competition to continue to blossom in the voice market for residential and small business customers, in those circumstances where competitors have conclusively demonstrated that they are impaired without access to unbundled local switching.[2] The reality is that competition for residential customers has relied almost completely on the availability of unbundled local switching.[3] Our state commission colleagues have labored mightily to open markets to competition by ironing out performance issues, establishing incentive plans to ensure performance going-forward, and setting prices for network elements in accordance with this Commission's pricing rules. I am pleased that they will continue to play a role in developing local competition under our Order. Many of our own Section 271 approvals granting Bell Companies authorization to provide long distance service rely on the existence of UNE-Platform competition to meet the Track A requirements for facilities-based competition.[4] The service provided using incumbent's switching has brought the clearest and most direct benefits of competition to American consumers in the form of lower prices and innovative services. As many consumer advocates told us, quite simply, it has brought the benefit of choice.[5]

Bringing the benefit of choice has been good for the American people and for American

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[2] Opponents of our decision invariably point to the current deployment switches by competitors. This argument, however, ignores critical differences in the mechanics and economics of providing service to residential and small business customers, as opposed to larger business customers.

[3] *Triennial Review Order*, para. 440 (noting that "much of the deployment relied upon by the BOCs in fact provides no evidence that competitors have successfully deployed switches as a means to access the incumbent's loops").

[4] *See* Letter from Brad E. Mutschelknaus, Counsel for Broadview Networks, to Marlene H. Dortch, Secretary, FCC (Jan. 21, 2003) (describing how all four RBOCs have relied upon the presence of UNE-P to advance their bids for section 271 authority).

[5] *See, e.g.* Letter from Robert S. Tongren, President, National Association of State Utility Consumer Advocates to Michael Powell, Chairman, FCC (Dec. 16, 2002); Letter from James Bradford Ramsey, General Counsel, NARUC, to Office of the Secretary, FCC (Feb. 14, 2003); Letter from Consumers Federation of America and Consumers Union to Michael Powell, Chairman, FCC (Feb. 13, 2003).

businesses. Companies are forging partnerships to offer bundled services that are attractive to consumers and can spur demand. Recently, AT&T Corporation announced that it had worked out a resale deal with its former subsidiary, AT&T Wireless Service, Inc., in which the two companies created an alliance to bring a wireline/wireless service offering. The availability of unbundled switching has allowed the nation's long distance carriers to provide bundled long distance and local services. The Bell Companies are following suit. They have begun rolling out programs that allow customers in some states to make unlimited local and national calls for one flat monthly rate. There is growth in these businesses, and it is made possible by technology and changing consumer habits. The companies providing these bundled packages are seeing them as a way to secure market share. I do not believe that these plans would have become so readily available if we had not preserved access to the UNE-Platform where competitors are unable to deploy their own facilities.

The switching rules adopted in this Order are solidly grounded in the Act and address the concerns of the reviewing courts, most notably the U.S. Court of Appeals for the District of Columbia in *USTA v. FCC*.[6] In response to that decision, our Order employs a more granular analysis that examines particular customer classes and geographic areas. Using this analytical framework, unbundling will only be required in those areas where competitors are impaired. In addition, the Order applies an impairment standard that takes into account not only actual competitive deployment but the ability of competitors to self-deploy or obtain elements from alternative sources. The Order also takes into account the incentives created by unbundling rules. Indeed, we apply the same impairment standard that is endorsed by all five members of the Commission. Moreover, where we ask state commissions to analyze geographic and market-specific factors, we enumerate specific national triggers and criteria that are functionally identical to those endorsed by the full Commission in the transport section.

Finally, we have taken additional proactive steps to limit unbundling of the switching element. Where we determine there to be impairment without access to switching, we adopt mechanisms designed to mitigate impairment and thereby reduce the overall amount of unbundling.[7] For example, we include a baseline rolling use of unbundled switching for customer acquisition purposes. We have concluded that impairment in a given market can be mitigated by granting competitive carriers access to unbundled circuit switching for a temporary period during which it could accumulate customers and later migrate them through a batch hot-cut process to their own switching facilities. This temporary, rolling access can help address certain barriers to entry associated with the switching element. It can also help address high

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[6] *USTA v. FCC*, 290 F.3d 415 (D.C. Cir. 2002).

[7] First, we ask our state commission colleagues to evaluate whether competitors could rely on their own switches if they had access to a "batch hot cut" process that would enable them to transfer larger numbers of their customers over to their own switches. Such a process would minimize the costs and operational difficulties for competitors. Second, we ask our state commission colleagues to consider whether the use of unbundled switching on a "rolling" basis would cure whatever additional economic and operation barriers they determine to exist in discrete geographic markets.

customer churn, which some carriers say is as high as 50% for new customers during the first three months of service. This "rolling" availability of switching can aid competitors in their efforts to build up an adequate customer base and then cut over to the use of their own switches, facilitating the transition to facilities-based competitive service. This is about enhancing competitive entry and subsequent opportunity, and not hamstringing it before it is ripe. Indeed, the switching majority's decision takes critical steps to ensure that competitors do not rely on the UNE-Platform in perpetuity.

Overall, I am confident that this decision sets up a framework that responds to the D.C. Circuit and that will allow consumers to see lasting benefits of competition.

Broadband Decision Provides Inconsistent Incentives for Providers

As I have said before, speeding the deployment of broadband to all Americans is one of the most critical tasks before us. That is our clear mandate from Congress. So I support portions of the Unbundled Local Loops section of this Order that create appropriate incentives for competitors and incumbents to build out next generation facilities. I find, however, that the Order takes an uneven approach to creating incentives for broadband deployment and, accordingly, I must dissent from significant portions of the section.

I approve this Order's finding that incumbents and competitors stand on roughly equal footing when making new fiber-to-the-home deployments (*i.e.*, "greenfield" construction projects). Where barriers to deployment are equivalent, we should give providers every incentive to invest in and roll-out next generation facilities that will bring the benefit of advanced services to American consumers. Indeed, requiring unbundling in such circumstances would be the sort of overbroad approach for which this Commission has been rebuked in the past. By eliminating unbundling for greenfield fiber-to-the-home projects, we will speed the deployment of these large information pipes, which have the greatest potential to deliver a wealth of innovative and beneficial services to consumers.

A more difficult choice was presented in the decision to eliminate the high frequency portion of the loop. Were I to look at this question without the overlay of existing judicial precedent, I would likely have reached a different outcome. Availability of this element has made a positive contribution to the competitive landscape by enabling competitors to provide advanced services through "line sharing" arrangements. Nevertheless, I concur in this section out of recognition that the *USTA* court has directly spoken to this issue[8] and with my expectation, which is being borne out in the current marketplace, that the ability of competitors to access whole loops will enable them to continue to roll-out broadband services to residential and small business consumers. Given the necessity of this action, I am pleased that we are able to provide a sufficient transition that will not disrupt service to the many consumers who currently receive

[8] *USTA v. FCC*, 290 F.3d at 428-430.

broadband services *via* line sharing arrangements and that will allow competitors an opportunity to adjust their business plans to our new unbundling rules.

Regrettably, I cannot join the Order in other broadband findings. Portions of the Order disregard Congress' touchstone, the impairment standard. This is particularly so in those cases where incumbents are deploying fiber as part of their existing networks in the form of "hybrid loops," which combine copper and fiber plant. In these cases, I find the Order's conclusion that Section 706 of the Act outweighs the impairment standard of Section 251 to be unfounded. The decision to limit competitors' access to unbundled local loops, long recognized by this Commission and reviewing courts as the ultimate bottleneck facility,[9] strikes me as wholly inconsistent with the Commission's roundly-supported efforts to promote loop-based competition. More broadly, I fear that this decision may not only undermine competition but also drastically limit consumer choices for broadband, in many cases to one provider. Functionally, the Order forces many residential and small business consumers to choose narrowband, dial-up service in order to reap the benefits of competition.

Conclusion

While many, including me, would have preferred this Order to have been released on the day of adoption, the complex issues, the divergent viewpoints expressed, and the fact that significant portions of the drafting were not begun in earnest until after the vote prevented a simultaneous release. We have strived to finalize this Order as quickly as possible. In so doing, we faced the daunting task of addressing two court remands and the more than three thousand comments filed in this proceeding – many of which included sophisticated, and often contradictory, economic studies and analyses. The result is a five hundred page order that incorporates the views of different majorities to reach conclusions about particular elements. The complexity of the issues and the diversity of views may have slowed the process of finalizing the Order, but we have worked hard in fleshing out the final details of the Order to address many of the concerns raised by those in dissent. Of course, I would have preferred that this be a unanimous decision and I worked with both sides to try to find common ground. However, in the final tally, all five Commissioners agreed on an impairment standard that satisfies the statute and the courts; we simply disagreed on how it is applied to the evidence for particular elements.

Throughout this process, we have been fortunate to have been aided by the exceptionally-talented and enormously-dedicated staff here at the Federal Communications Commission and to have had the benefit of a well-developed record reflecting the views of all types of service providers, equipment manufacturers, state utility commissioners, and, most importantly, consumer interests. While there are few who support every outcome in this item, I express my

[9] *See Triennial Review Order*, para. 205 (noting that "[c]onstructing loop plant is both costly and time consuming, regardless of the type of loop being deployed"); Verizon v. FCC, 535 U.S. 467 at n.27 (acknowledging that loop facilities are "very expensive to duplicate").

thanks to all of my colleagues, the dedicated staff, and the members of the communications industry and the public who contributed to this item.