



Federal Communications Commission  
Washington, D.C. 20554

August 14, 2023

The Honorable Karen Charles  
Chairwoman, North American Numbering Council  
Commissioner, Massachusetts Department of Telecommunications and Cable  
1000 Washington Street, Suite 600  
Boston, MA 02118

Re: Internet of Things Numbering Usage Working Group

Dear Chairwoman Charles:

One of the principal underlying objectives in administering the North American Numbering Plan (NANP), and in charting its future, is efficient use and conservation of its finite numbering resources. The NANP is currently projected to reach exhaust of its numbering resources in 2051<sup>1</sup> (in 28 years), a date that could be hastened if trends in usage accelerate. In 1999, the North American Numbering Council (NANC) estimated the total societal cost of expanding the universe of numbering resources in the NANP, which would require adding digits to telephone numbers, would be \$50-\$150 billion (roughly \$90-\$270 billion in 2023 dollars).<sup>2</sup> Such costs would begin to be incurred many years before the exhaust date, as service providers would need to overhaul various aspects of their networks, customer equipment would have to be reprogrammed or replaced, and many other preparatory changes would be necessary.<sup>3</sup> It is in the interest of all NANP stakeholders to exercise good stewardship of the NANP's numbering resources to forestall or avoid such exhaust and its considerable impact.

With all of the pressures on NANP resources due to ever-increasing demand for numbers, it is important that efforts be made to assign NANP numbering only where use of NANP numbers is necessary for the particular communications function. Not all NANP numbers presently being assigned and used are actually necessary for communication needs, including over the public switched telephone network (PSTN).

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<sup>1</sup> North American Numbering Plan Administrator, *April 2023 North American Numbering Plan (NANP) Exhaust Analysis* (Apr. 2023), [https://nationalnanpa.com/reports/April\\_2023\\_NANP\\_Exhaust\\_Analysis\\_%20Final.pdf](https://nationalnanpa.com/reports/April_2023_NANP_Exhaust_Analysis_%20Final.pdf).

<sup>2</sup> *Numbering Resource Optimization*, CC Docket No. 99-200, Report and Order and Further Notice of Proposed Rule Making, 15 FCC Rcd 7574, 7580 n.10 (2000).

<sup>3</sup> See, e.g., Alliance for Telecommunications Industry Solutions, Inc. (ATIS), *North American Numbering Plan (NANP) Expansion Reference Document*, ATIS-0300072 (Aug. 17, 2002), [https://access.atis.org/apps/group\\_public/download.php/46547/ATIS-0300072\(2002-08\).pdf](https://access.atis.org/apps/group_public/download.php/46547/ATIS-0300072(2002-08).pdf); North American Numbering Council NANP Expansion/Number Optimization Issue Management Group, *NANP Expansion/Number Optimization November 7, 2002 Final Report* (Nov. 7, 2002), [https://nanc-chair.org/docs/Nov/NENO\\_Report\\_110702.doc](https://nanc-chair.org/docs/Nov/NENO_Report_110702.doc).

Many modern carrier network architectures (beyond time-division multiplexing (TDM) technology), including most wireless networks, may not require use of NANP numbers for the addressing and routing of Internet of Things (IoT) device communications. In communications with IoT devices over such networks, where there is no human involvement in the communications traffic after device configuration, it may be unnecessary in most cases to draw and use NANP numbers for addressing. Other addressing formats might be used instead such as, for example, IP addresses or alphanumeric addresses utilizing a combination of numbers and letters.

The Commission would greatly benefit from the NANC's expertise on the nature and scope of this issue and viability of potential solutions, including the feasibility and advisability of transitioning IoT device usage of NANP numbers to alternative addressing. We direct the NANC, via its newly formed Internet of Things Numbering Usage Working Group,<sup>4</sup> to examine this, including addressing the following topics:

- Why and how IoT devices use NANP numbering resources;
- Whether and to what extent there are alternatives to using NANP numbering resources for IoT device needs, and the degree to which such alternatives are feasible and preferable;
- How such alternatives might best be adopted and encouraged;
- Whether and to what extent numbering industry guidelines (such as those of the ATIS Industry Numbering Committee), the Technical Requirements Document of the North American Numbering Plan Administrator contract, and/or FCC rules should be revised to encourage or require such alternatives and/or to bar or restrict certain usage of NANP numbers; and
- The degree to which reduction in use of numbering resources by IoT devices might aid in numbering resource conservation.

We further direct the NANC to approve a written report on its findings on this, and to transmit that report to the Wireline Competition Bureau by **June 28, 2024**. If you have questions about this referral, please contact Christi Shewman, the NANC's Designated Federal Officer, at [christi.shewman@fcc.gov](mailto:christi.shewman@fcc.gov).

We appreciate the NANC's long-standing role in aiding the Commission in its efforts to optimize use of the finite telephone numbering resources in the NANP in a manner most beneficial to the people served by it.

Sincerely,



Trent Harkrader  
Chief  
Wireline Competition Bureau

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<sup>4</sup> See *FCC Solicits Nominations for Rechartered North American Numbering Council Working Group Membership*, WC Docket No. 23-1, Public Notice, DA 23-468 (WCB June 1, 2023) (working groups announced for anticipated renewed NANC charter).