Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, DC 20554

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In the Matter of )

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Nationwide Number Portability ) WC Docket No. 17-244

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Numbering Policies for Modern Communications ) WC Docket No. 13-97

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REPLY COMMENTS OF MARK LANCASTER[[1]](#endnote-1)

With gratitude to the Federal Communications Commission (“FCC” or “Commission”) for the opportunity to submit, these comments are offered to assist in resolving the immediate NPRM/NOI[[2]](#footnote-1) issues, while driving toward the long-anticipated conversion of the Public Switched Telephone Network (“PSTN”).

***Opening Comments*** – Nationwide Number Portability (“NNP”) first appeared as a modest, pro-competition request from a few regional wireless service providers; *(paraphrase) we want what national wireless service providers now have, that is, the ability to port numbers from any domestic location into our regional networks.*

As noted in this NPRM/NOI, the Commission directed industry parties, associations such as the CTIA – The Wireless Association (“CTIA”), and the North American Numbering Council “(“NANC”) to investigate and document options available to move forward with NNP.

The work that has been done revealed not a rejection of the concept of NNP, but rather a realization of the enormity of the task. Parties to the investigations recognized the value of the proposition. At issue, and where this proceeding must recalibrate, is at the difference between local and national. Telecommunications competition was the intention of the Act[[3]](#footnote-2), and the local exchange was the starting point. This competitive local network has, over the more than 20 years since President Clinton signed the Act, been designed with local interfaces, priced with local rates, entered via local interconnection, and addressed by telephone numbers that are local in their origins. To get all this local to act national, how do we do that?

The industry, through Competitive Local Exchange Company (“CLEC”) entry, wireless service development and Voice over Internet Protocol (“VoIP”) penetration, has effectively put a “long cord” on the local number. The customer (or end user) can be anywhere that their technology allows, but the network still grounds each call to its local roots.[[4]](#footnote-3) In this NPRM/NOI, we are posed with questions whose answers may produce a more sophisticate long cord. To most economically use our regulatory and industry energies, we should design a less-local network for NNP. The PSTN needs to be transitioned via non-local paradigms. The network itself has to move from L (local) to N (national) to properly get to NNP.

The idea of a revamped PSTN, led by Commission action is not new. Among other parties advocating for an evolution of the telephone network, in December 2009 under the heading of *Setting a Firm Deadline for Sunset of the PSTN*, AT&T said:

“Perhaps the most important question relating to the logistics of phasing out the PSTN involves setting a deadline for the sunset of the PSTN and POTS. To that end, the Commission should issue a Notice of Inquiry that explains the importance of a firm deadline for the phaseout of POTS service and the PSTN, and it should ask what that deadline should be.”[[5]](#footnote-4)

This filing was calling for a move from the circuit-switched (or “TDM”) network to broadband. The target at that time was eight years, that is, 2018.

Regarding the IP transition challenge, Sharon Gillett, former Wireline Competition Bureau Chief, offered some questions “we are thinking about” in June 15, 2012 remarks at the *Voice Communication Exchange Workshop on the Transition to IP Networks* in context of the 2011 USF/ICC Transformation Order*:*

• What is technically possible, and what is technically feasible on an industry-wide scale?

• How do we work out efficient and equitable solutions to difficult issues like the number of points of interconnection, and costs to convert from TDM to IP, and what solutions have industry players negotiated on these issues to date?

• What is the appropriate role and authority for the Commission regarding the interconnection of IP-based networks without an intervening TDM conversion, in particular for the exchange of phone calls?[[6]](#footnote-5)

These are pertinent questions today, and part of getting to the next network, the IP-centric network. The need, though, is broader than Number Portability.

In response to specific NPRM/NOI sections, the following replies are offered.

***N-1 Requirement*** – If the N-1 query requirement is eliminated, without some new requirement to query elsewhere in the process, calls that are completed today will surely fail for lack of a query. For LRN-based number portability to operate, there must be certainty that each call to a portable NXX (e.g., the first three numbers of a seven digit number) will have been queried during the call set-up process, or some calls will have no query and will fail. Since LNP queries are an expense to the querying party, it seems likely that, sans N-1 query requirement, some calls to ported numbers will not route properly. Solutions such as reassigning the requirement from the N-1 carrier to another carrier in the calling path (e.g., the originating carrier) would eliminate this uncertainty. Without such clarity of querying requirement, consumers will experience incomplete calls and be frustrated.

Regarding emergency services and N-1 requirement, the inbound call to the 911 center is not likely to be hampered since separate routing paths exist for this purpose, but the return call that the 911 center may place in the event a call-back is necessary could fail, if there is question about which carrier provides the LNP query.

***Elimination of Remaining Interexchange Dialing Parity Requirements*** – Without taking a position on the proposed Dialing Parity forbearance, it is worth noting that the FCC acknowledges “today’s all-distance market” and the competitive unimportance of “stand-alone long -distance” services. Consumer interests have largely moved away from various location-based services as they want their service providers to migrate with them from the local exchange. The rate center boundaries that give street-level clarity to local calling scope and the mileage-based long-distance plans used to reach out to Grandma’s house are more compatible with the rotary phone than they are with packet switching and optical fiber. Since the FCC and their constituency recognize this, perhaps it is time to quit feeding nickels and dimes into the TDM coin slots by eliminating the existing default to the historic circuit-switched network. *If calls to a TDM switch were routinely delivered via IP, and the obligation (cost) to convert to TDM was upon the terminating service provider, switching platforms would more quickly reappear as IP-based.*

***NNP Alternatives Identified in the ATIS Report*** – Setting aside options 1, 2 and 4 as investing in updates to a fading technology, and acknowledging that option 3 is available today, there are none of these alternatives that need to be further pursued as a regulatory initiative. The assumptions for 1, 2 and 4 each start from a static view of the PSTN and its TDM-centric basis, with all the NPAC, interconnection and compensation structures extant today. If the FCC saw fit to investigate a timeline for converting to an IP-centric network, the pathway to NNP would likely be measurably different than these solutions.

The ATIS report delineates changes needed to the NPAC database, to supporting LNP systems, it describes possible disparate handling of wireless versus wireline ports, and it contemplates switch replacement to accommodate options 1, 2 and 4. The level of adjustment to the current TDM-centric networks that these three options require would take a few years to implement, and would rely upon retention of the TDM orientation. It seems economically inefficient to breath new and different life into the aging TDM model.

Small, rural and regional carriers can compete right now using commercial agreements (option 3) to achieve a similar level of national footprint that larger service providers have today.[[7]](#footnote-6)

***Necessary Changes and Challenges to Achieving NNP and Number Administration*** – As the questions on ***Routing and Interconnect, Public Safety, Access by Individuals with Disabilities and Tariffs and Intercarrier Compensation*** demonstrate, making the number portability regime national is much broader than redesigning LNP or changing the N-1 requirement. Both of these will necessarily happen, along with other changes. It would seem aligning this NPRM/NOI with broader Commission efforts is the prudent approach. This suggestion is not new, as there have been overtures, now years old, that have intoned such efforts.

***Suggested Next Steps*** – If the FCC were to investigate the issue and determine that it is in the public interest to be an IP-centric calling system, it might find it expedient to set a date for such a change in default from TDM to IP[[8]](#footnote-7). One approach would be to consider the five-year NPAC contract for industry portability services which should expire during 2023. If the FCC would establish that this default protocol shift (TDM-to-IP) would be fixed on July 4, 2023 (TDM Independence Day), this would allow regulatory and industry efforts to work backwards to redesign the PSTN for an IP retrofit that would necessarily involve intercarrier compensation, interconnection, tariffs, emergency services and number portability in a holistic manner. In this example, the nascent NPAC contract could run its course with any adjustments made for future services after the 5-year contract expires. Of course, any number of future dates might be suggested, but this plea is to set one such date and coalesce planning activities in response to that date.

As much as industry parties might wish to evolve without specific mandates, it seems unlikely the PSTN will evolve from a TDM-centric model to IP-centric without such regulatory finiteness.

Thus, it is this petitioner’s suggestion that the FCC arrive at a date some years from now to which the industry can build the network capable of accommodating NNP. Perhaps the FCC can turn to Federal Advisory Committees such as the NANC[[9]](#footnote-8) and/or the Technological Advisory Council (“TAC”) for leadership in bringing the various industry forces to bear.

Respectfully submitted,

By: */s/ Mark Lancaster*

Mark Lancaster

[IDigNumbers@811.org](mailto:IDigNumbers@811.org)

816.560.9933

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1. Mark Lancaster has 39 years of experience in telephony, with the last 22 spent in regulatory consulting on Numbering topics at AT&T. He is a former North American Numbering Council member, and he has served in the North American Portability Management, LLC as well as a participant in the Industry Numbering Committee. Mark has been a regulatory witness from Virginia to Nevada and has represented AT&T on Local Number Portability, NPA Relief, Number Conservation and CLEC Arbitration from Alaska to the US Virgin Islands. These comments are on his own behalf and for the interests of progressive domestic communications. [↑](#endnote-ref-1)
2. See *Nationwide Number Portability, Numbering Policies for Modern Communications*, Notice of Proposed Rulemaking and Notice of Inquiry, 32 FCC Rcd 8034 (2017) (“NPRM/NOI”). [↑](#footnote-ref-1)
3. “To 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 of the Telecommunications Act of 1996) https://transition.fcc.gov/Reports/tcom1996.pdf [↑](#footnote-ref-2)
4. Note that Local Number Portability (“LNP”) only repoints inbound calls from one local switch to another local switch via the Location Routing Number (“LRN”) technology. The target switch still must have a presence in the Local Access and Transport Area (“LATA”) of the ported telephone number. [↑](#footnote-ref-3)
5. See at page 14 *Comments of AT&T INC. on the Transition from the Legacy Circuit-Switched Network to Broadband*, December 21, 2009, GN 09-47, GN 09-51, GN 09-137. [↑](#footnote-ref-4)
6. See at page 6, <https://apps.fcc.gov/edocs_public/attachmatch/DOC-315146A1.pdf> [↑](#footnote-ref-5)
7. Commenters have pointed correctly to the availability for smaller service providers to enter commercial agreement for a national presence. This is the way some larger wireless service providers began offering nationwide service. These larger wireless companies formed agreements as they built out their facilities footprint, and still have roaming and other agreements where they do not have a company-owned network. [↑](#footnote-ref-6)
8. The assumption is that today the obligation is upon the interconnecting (originating or toll) carrier to terminate the call to TDM protocol in the absence of agreement to do otherwise. If the FCC determined that the terminating default would be an IP protocol at some date in the future, each carrier that delivers the terminating call to the customer would either become all-IP or would pay the cost of converting to TDM at the point of interface where the call was handed off to them. [↑](#footnote-ref-7)
9. The newly chartered NANC brings more diverse resources for this task, given its redirected mission and the robust membership. [↑](#footnote-ref-8)