March 16, 2016

Honorable Betty Ann Kane
Chairman
Public Service Commission of the District of Columbia
1333 H Street, N.W.
West Tower 7th Floor
Washington, DC 20005

Re: Nationwide Number Portability

WC Docket No. 13-97: *Numbering Policies for Modern Communications*
WC Docket No. 07-149: *Telcordia Technologies, Inc. Petition to Reform Amendment 57 and to Order a Competitive Bidding Process for Number Portability Administration*
WC Docket No. 09-109: *Petition of Telcordia Technologies, Inc. to Reform or Strike Amendment 70, to Institute Competitive Bidding for Number Portability Administration, and to End the NAPM LLC's Interim Role in Number Portability Administration Contract Management*
CC Docket No. 95-116: *Telephone Number Portability*
GN Docket No. 13-5: *Technology Transitions*

Dear Chairman Kane,

NTCA–The Rural Broadband Association ("NTCA") hereby submits this letter to discuss the issue of nationwide number portability ("NNP"), at times also referred to as non-geographic number portability ("NGNP"). NTCA is a member of the North American Numbering Council ("NANC") and, as a representative of small, rural carriers with both wireline and wireless operations,[1] has a unique perspective on the issue.

The Chief of the Federal Communications Commission's ("Commission") Wireline Competition Bureau ("WCB") has requested that the NANC "evaluate and recommend actions to enable nationwide wireless number portability through technical modifications to the location routing

[1] NTCA represents nearly 900 rural rate-of-return regulated telecommunications providers ("RLECs"). All of NTCA's members are full service local exchange carriers and broadband providers, and many of its members provide wireless, cable, satellite, and long distance and other competitive services to their communities. Of particular relevance to this letter, NTCA estimates that approximately 40% of its members provide mobile wireless services.

number system used to route wireless- and wireline originated calls to ported numbers."[2] As part of its direction to NANC, the WCB listed certain specific consumer and regulatory issues that should be part of NANC's consideration,[3] and these issues were assigned to various NANC working groups in December 2015.

Resolution of the issues identified in the WCB's November 2015 letter will be critical to ensuring that NGNP can be implemented in a seamless manner that maximizes consumer benefits and minimizes adverse impacts. NTCA submits this letter to ensure that certain specific considerations or details beyond those broadly identified in the November 2015 letter are not overlooked, as the failure to properly address these issues could negatively affect not only rural Americans in particular, but also those in more urban markets that wish to communicate with them. More specifically, to ensure the transition to a NNP environment could be a success for *every* American, there are a number of routing and networking questions with respect to the implementation of NNP that must be resolved prior to such implementation.

NTCA recognizes the interest of consumers in being permitted to "keep" their number even as they switch carriers and move geographically. Indeed, NTCA anticipates that certain of its members may seek to utilize NNP, if implemented, to attract new customers, particularly in the wireless context. But as a general matter, any resolution of questions related to NNP implementation must look to the touchstones of public safety, consumer protection, and fundamental fairness in the responsibility for implementation among all affected operators. In particular, the offering of NNP functionality to a consumer by any one carrier must not lead to confusion for other consumers or reduce the level of service they expect to receive in terms of the seamless completion of calls or the prices they pay for placement of any given kind of call. Nor should NNP implementation impose on other operators any additional, incremental responsibilities (such as routing and transport) associated with such implementation. Rather, it is only fair and equitable that the carrier benefitting directly from providing NNP to its customers should then bear the full responsibility for ensuring that functionality does not disrupt the completion of calls or foist costs on other operators. Carriers offering such a service are likely to do so for competitive reasons, as a method of product differentiation designed to attract and retain subscribers. These carriers should not be provided then with the advantage of having the incremental costs that will arise due to their implementation of such new functionality be paid for by other carriers and their customers. Moreover, public safety and consumer protection demand that under no circumstances should calls be dropped or misrouted due to a lack of clarity with respect to the "rules of the road" for routing calls to numbers ported on a nongeographic basis.

NTCA is encouraged to see that the Future of Numbering ("FoN") Working Group apparently has already started to consider such issues.[4] Questions regarding the applicability of tolls, tariffs,

---

[2] Letter from Matthew S. DelNero to the Honorable Betty Ann Kane, Chairman Public Service Commission of the District of Columbia (Nov. 16, 2015) ("November 2015 Letter").

[3] *Id*., p. 2.

[4] Future of Numbering Working Group, Interim Report to the NANC, Nationwide Number Portability (Feb. 8, 2016). As the FoN report notes, the FCC specifically outlined these in its November

and taxes, as well as related matters of costs and cost recovery, must be examined in detail before any action with respect to NNP can be finalized and changes approved by the Commission. Indeed, NTCA has identified at least two specific areas of technical concern relating to routing and network responsibility that must be resolved as part of any NNP implementation.

First, it would appear that NNP implementation would require every carrier to migrate from performing Local Number Portability ("LNP") queries (or "database dips") only in the context of originated non-native "local" calls (as is the case today) to performing dips in the future on *every* call originated to the customer of another carrier. For RLECs with only a few other carriers in their local calling area, this could result in the requisite number of dips moving from relatively few per month to hundreds of thousands per month or more. The costs and other burdens of expanding the scope of such LNP queries in such a massive manner must be factored into an assessment of NNP implementation, especially as they might adversely affect smaller and rural operators.

Second, and likely more importantly, in the absence of careful thought and definition in advance, implementation of NNP functionality could cause: (a) significant provider confusion in routing and transport responsibilities associated with calls to and from numbers ported on a nongeographic basis; (b) significant customer confusion as to what is a local or long distance call; and (c) the foisting of costs on smaller and rural carriers that have no relationship or privity with either the carrier providing NNP porting capability or that carrier's consumer. For example, where NNP has been implemented, the information returned from a LNP query might indicate that a call that appeared "local" in the past should now be routed by an RLEC across country to another carrier with whom the RLEC otherwise has no involvement or relationship, resulting in the treatment of that as a "long distance call" for the consumer and necessitating the routing and transport of that call via an interexchange carrier for what otherwise would have been a local call routed and transported via local interconnection arrangements. Thus, if routing rules, switch translations, and interconnection and transport obligations are all not thought through and well-defined, there would appear to be substantial risk of customer confusion, routing confusion, and potential transport and interconnection disputes among network operators – certainly, no carrier should be obligated to bear the financial and operational responsibility to carry (or pick up) a call hundreds or thousands of miles away simply because *another carrier* has ported a number there. Again, to be clear, this is not to say that NTCA opposes NNP implementation – but, as a NANC working group has already recognized,[5] such implementation must not confuse consumers, and moreover, those seeking and benefitting most directly from its implementation should bear complete responsibility for successful and seamless routing of calls and any and all costs arising from transport and routing to accommodate such implementation.

2015 letter as among the issues to be examined and addressed by the NANC, and the NANC Chair in turn referred those to the FoN Working Group.

[5] *See*, NANC Local Number Portability Administration Working Group, White Paper on Non-Geographic Number Portability (Feb. 19, 2015), at 9-11.

Moreover, while these questions arise in the immediate context of today's network architectures, it is important to note too that questions related to transport, interconnection, and routing will remain just as relevant and pressing even in an "all-IP world" – unless service quality is not a concern and the presumption is that voice calls can be commingled with other data and transmitted via "public Internet" routing rather than being transmitted via means that assure service levels. As many have noted in the past, even in an "all-IP world," and even if one were to assume that service quality levels were *not* important in the transmission of voice calls, the costs of transport are not free and someone must always assume the responsibility of taking data (including but not limited to voice calls) from point A to point Z.[6] Such burdens will continue to be particularly acute for smaller carriers that lack a national transport network of their own.

In the Appendix contained herein, to help aid the discussion and illustrate the potential issues presented, NTCA outlines a variety of potential call flow scenarios for which these important questions related to routing and network responsibility must be examined and resolved. There are likely technical solutions to all of the issues noted above for each of the eight call flow scenarios identified in the attachment hereto – but implementation of NNP must examine and care for such issues, and must ultimately ensure that those benefitting most directly from NNP (which, once again, may at times include NTCA members) bear the full financial and operational responsibilities arising out of its implementation. NTCA therefore believes that the NANC must include, as part of any response to the Commission regarding the issues laid out in the November 2015 Letter, both identification of these as specific concerns that arise in the context of NNP recommendations and suggestions as to how these issues related to routing and network responsibility will be resolved in a matter that promotes public safety, consumer protection, and competitive equity among operators.

Thank you for your attention to this correspondence. Pursuant to Section 1.1206 of the Commission's rules, a copy of this letter is being filed via ECFS.

Respectfully Submitted,

By: /s/ Michael R. Romano
Michael R. Romano
Brian J. Ford
NTCA – The Rural Broadband Association
4121 Wilson Blvd, 10th Floor
Arlington, VA 22203
(703) 351-2000

[6] *Ex Parte* Letter from Robert C. Barber, General Attorney, AT&T Services, Inc., to Marlene H. Dortch, Secretary, Commission, WC Docket 10-90; CC Docket No. 01-92; GN Docket No. 14-28 (filed July 30, 2014), at Attachment pp. 15-18 (describing how "Carriage of Traffic is Not Without Cost" even in an all-IP ecosystem, and highlighting the sizeable "Cost Implications of Carrying Additional Traffic" even for one of the largest carriers in the United States with a national network footprint).

cc: Matthew DelNero
Carolee Hall
Dawn Lawrence
Suzanne Addington
Paula Jordan Campagnoli
Ron Steen

APPENDIX

BASELINE FACT PATTERN FOR CALL FLOW SCENARIOS

For purposes of the Call Flow Scenarios that follow, assume in each case:

- Wireless Carrier 1 is a regional wireless carrier based in Dallas, TX (Dallas MTA).
- Wireless Carrier 2 is a regional wireless carrier based in Minneapolis, MN (Minneapolis MTA).
- RLEC is a wireline carrier based in rural TX (Dallas MTA).
- Assumptions made for the purposes of this fact pattern:
    - Wireless Carrier 2 and RLEC do NOT have direct interconnections in place.
    - Wireless Carrier 2 does NOT have any operations/physical network presence in the Dallas MTA.

SCENARIO A1 – Wireline to Wireless Call (Rural Texas Calling Minneapolis Number Ported to Dallas, Physically Located in Dallas)

- Wireless Carrier 2 customer in Minnesota moves to Dallas and requests to have the "Minneapolis" telephone number ported from Wireless Carrier 2 that provides regional service in Minneapolis to Wireless Carrier 1 that provides regional service in Dallas.
- RLEC customer (rural TX, Dallas MTA) calls Wireless Carrier 1 customer with a Minneapolis telephone number while the latter is ***physically in*** Dallas.

SCENARIO A2 – Wireline to Wireless Call (Rural Texas Calling Minneapolis Number Ported to Dallas, Physically Traveling Elsewhere)

- Same as A1 – Wireless Carrier 2 customer in Minnesota moves to Dallas and requests to have the "Minneapolis" telephone number ported from Wireless Carrier 2 that provides regional service in Minneapolis to Wireless Carrier 1 that provides regional service in Dallas.
- RLEC customer (rural TX, Dallas MTA) calls Wireless Carrier 1 customer with a Minneapolis telephone number and while the latter is ***traveling somewhere other than*** Dallas.

SCENARIO B1 – Wireline to Wireless Call (Rural Texas Calling Dallas Number Ported to Minneapolis, Physically Located in Minneapolis)

- Wireless Carrier 1 customer in Dallas moves to Minneapolis and requests to have the "Dallas" telephone number ported from Wireless Carrier 1 that provides regional service in Dallas to Wireless Carrier 2 that provides regional service in Minneapolis.

- RLEC customer (rural Texas, Dallas MTA) calls Wireless Carrier 2 customer with a Dallas telephone number while the latter is ***physically in*** Minneapolis.

SCENARIO B2 – Wireline to Wireless Call (Rural Texas Calling Dallas Number Ported to Minneapolis, Physically Traveling Back to Dallas)

- Same as B1 – Wireless Carrier 1 customer in Dallas moves to Minneapolis and requests to have the "Dallas" telephone number ported from Wireless Carrier 1 that provides regional service in Dallas to Wireless Carrier 2 that provides regional service in Minneapolis.
- RLEC customer (rural Texas, Dallas MTA) calls Wireless Carrier 2 customer with a Dallas telephone number and while the latter is ***traveling back to*** Dallas.

SCENARIO C1 – Wireless to Wireline Call (Minneapolis Number Ported to Dallas, Physically Located in Dallas, Calling Rural Texas)

- Same as A1 – Wireless Carrier 2 customer in Minnesota moves to Dallas and requests to have the "Minneapolis" telephone number ported from Wireless Carrier 2 that provides regional service in Minneapolis to Wireless Carrier 1 that provides regional service in Dallas.
- Wireless Carrier 1 customer with a Minneapolis telephone number while ***physically in*** Dallas calls RLEC customer (rural Texas, Dallas MTA).

SCENARIO C2 – Wireless to Wireline Call (Minneapolis Number Ported to Dallas, Physically Traveling Elsewhere, Calling Rural Texas)

- Same as A1 – Wireless Carrier 2 customer in Minnesota moves to Dallas and requests to have the "Minneapolis" telephone number ported from Wireless Carrier 2 that provides regional service in Minneapolis to Wireless Carrier 1 that provides regional service in Dallas.
- Wireless Carrier 1 customer with a Minneapolis telephone number and while ***traveling somewhere other than*** Dallas calls RLEC customer (rural Texas, Dallas MTA).

SCENARIO D1 – Wireless to Wireline Call (Dallas Number Ported to Minneapolis, Physically Located in Minneapolis, Calling Rural Texas)

- Same as B1 – Wireless Carrier 1 customer in Dallas moves to Minneapolis and requests to have the "Dallas" telephone number ported from Wireless Carrier 1 that provides regional service in Dallas to Wireless Carrier 2 that provides regional service in Minneapolis.
- Wireless Carrier 2 customer with a Dallas telephone number while physically in Minneapolis calls RLEC customer (rural Texas).

SCENARIO D2 – Wireless to Wireline Call (Dallas Number Ported to Minneapolis, Physically Traveling Back to Dallas, Calling Rural Texas)

- Same as B1 – Wireless Carrier 1 customer in Dallas moves to Minneapolis and requests to have the "Dallas" telephone number ported from Wireless Carrier 1 that provides regional service in Dallas to Wireless Carrier 2 that provides regional service in Minneapolis.
- Wireless Carrier 2 customer with a Dallas telephone number and while ***traveling back to*** Dallas calls RLEC customer (rural Texas, Dallas MTA).