

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

In the Matter of	)	
	)	
Nationwide Number Portability	)	WC Docket No. 17-244
	)	
Numbering Policies for Modern Communications	)	WC Docket No. 13-97

**COMMENTS OF AT&T**

AT&T Services, Inc. provides these comments in response to the Notice of Proposed Rulemaking (“NPRM”) and Notice of Inquiry (“NOI”)<sup>1</sup> released by the Federal Communications Commission (the “Commission”) on potential steps to transition to nationwide portability of telephone numbers.

**I. INTRODUCTION AND SUMMARY**

The Commission proposes changes to its rules that would set the stage for a transition to nationwide number portability (“NNP”) and explores potential solutions to implement NNP in the public switched telephone network (“PSTN”). AT&T supports a transition to NNP, as it would likely lead to a modest increase in competition between service providers. Even AT&T occasionally is unable to port-in a wireless number for a customer that is relocating from a geographic area where AT&T has no presence. These limitations in porting capabilities argue for Commission action to facilitate NNP *after* the transition to more flexible next generation internet protocol (“IP”)-based networks. They do not support the imposition of NNP on a legacy PSTN that is ill-equipped to handle it. Imposing NNP on the PSTN would force providers to waste

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<sup>1</sup> Nationwide Number Portability, Numbering Policies for Modern Communications, WC Docket No. 17-244, WC Docket No. 13-97, *Notice of Proposed Rulemaking and Notice of Inquiry*, 32 FCC Rcd 8034 (2017).

financial resources upgrading legacy technologies that are already at the trailing edge of their life cycles. Until the transition to IP networks that would support NNP is complete, providers can realize the benefits of NNP through commercial agreements without burdensome and expensive steps.

## **II. DISCUSSION**

### **A. Notice of Proposed Rulemaking**

The Commission proposes a staged transition to NNP, beginning with rule changes to eliminate the N-1 query requirement and the remaining interexchange dialing parity requirements. Eliminating interexchange dialing parity requirements would lead to more efficient call processing by reducing the number of calls routed through an interexchange carrier and further the Commission's efforts to align its regulations with all-distance voice offerings that facilitate NNP. Consequently, dialing parity requirements can be eliminated with minimal adverse impact and would.

Similarly, eliminating the N-1 query requirement would accomplish these goals. But, the benefits of meeting these goals are outweighed by the costs and burdens on providers and customers of eliminating the N-1 query requirement in the PSTN, arguing for taking this step only after standards for NNP are developed and implemented in next generation IP networks. An N-1 query requirement in certain NNP scenarios, such as a national location routing number ("LRN") regime, would result in inefficient and unnecessary routing of calls<sup>2</sup> and potential unanticipated toll charges to consumers because the provider from where the call originates (the "originating carrier") would not know whether the call is inter-local access and transport area ("LATA") or

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<sup>2</sup> Alliance for Telecommunications Industry Solutions, *ATIS Standard – ATIS-1000071, Technical Report on a Nationwide Number Portability Study, Technical Report* at 23 (2016) ("ATIS NNP Report"), available at [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-340865A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-340865A1.pdf).

intraLATA and, consequently, whether to perform the local number portability (“LNP”) query. Originating carriers would end up performing most if not all queries, which presents significant problems.

First, originating carrier switches must be capable of querying calls that they have not historically queried (i.e., calls to area codes where they have no presence). This switch capability is not a given, as most switches are programmed to perform the query for calls to only certain area codes. AT&T believes that at least hundreds of legacy switches without the capability of querying all areas codes continue to operate in the PSTN and that many of those switches are incapable of “reprogramming” to add this capability, such as manufacturer discontinued equipment or equipment that is not otherwise supported. Even those switches that can be modified would likely experience significant delays and require the outlay of millions of dollars before they could be capable of querying calls to areas codes outside their LATA. Moreover, capacity upgrades in some Signaling System 7 (“SS7”) networks may be needed to support the increased number of queries.

Second, systems of the Number Portability Administration Center (“NPAC”) and small and regional carriers that interact with it would require major modifications. Today, the NPAC is comprised of seven distinct regional LNP databases and small and regional providers perform LNP queries only through the NPAC database serving the region where they provide service. Calls to numbers in other regions are handed off to an interexchange carrier (“IXC”), which performs the LNP query. Eliminating the N-1 query requirement would likely result in small and regional providers having to query NPAC databases serving regions where they do not provide service and that they are not currently capable of querying. These providers will be forced to modify their

systems accordingly or the seven NPAC databases must become a single national NPAC database, either of which will be costly and take significant time.<sup>3</sup>

Some may argue that these harms can be avoided because they presume that the originating carrier performs the LNP query on all calls, whereas the Commission need not adopt such a mandate, i.e. the N-1 provider can still perform the LNP query even if it is not required to do so. In practice, however, if the Commission eliminates the N-1 query requirement, it must provide clarity as to which provider performs the query to ensure predictability and efficient routing of calls. Otherwise, originating carriers may choose to avoid the costs of performing *any* queries and leave it to the terminating carriers to perform the LNP queries and reroute calls for numbers that have been ported. This would cause inefficient routing. We agree with the Alliance for Telecommunications Industry Solutions (“ATIS”) that, “it would be important to ensure the call is queried before it gets to the network that is assigned the [central office] code.”<sup>4</sup> This is best achieved if the Commission makes the originating carrier responsible for performing the query. Unfortunately, that incremental step will impose the significant practical harms and prohibitive costs referenced above, even with extensive work, collaboration, and support by all parties.

Those harms and costs outweigh the modest competitive benefits that eliminating the N-1 requirement would provide. Moreover, the switch translations and other system updates needed to change the LNP query process will take years to implement, arguing for an extended compliance

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<sup>3</sup> See, e.g., North American Numbering Council, Local Number Portability Administration Working Group, *White Paper on Non-Geographic Number Portability* (2016) at 9 (2016) (“NANC White Paper”) (observing that enabling the NPAC databases to communicate with each other and exchange information would require “significant NPAC software code changes” and developing a single national NPAC database would “introduce additional, capacity implications”), available via [http://www.nanc-chair.org/docs/mtg\\_docs/Sep16\\_LNPA\\_WG\\_Report.docx](http://www.nanc-chair.org/docs/mtg_docs/Sep16_LNPA_WG_Report.docx).

<sup>4</sup> ATIS NNP Report at 23.

date of at least three years for any rules derived from this NPRM. Consequently, by the time upgradeable legacy switches are modified to support the elimination of the N-1 query requirement, they will be near the end of their life cycle. Rather than force providers to spend their resources on equipment and system upgrades that will have a limited lifetime and thus, limited utility, NNP should be mandated solely for IP networks and not for the PSTN. As Chairman Pai has observed, “digital opportunity is denied when the FCC’s rules force providers to maintain the networks of yesteryear.”<sup>5</sup> Providers would avoid this manner of stranded investment and instead invest their resources in next generation IP-networks with a more flexible architecture that can accommodate NNP.<sup>6</sup> Until that time, commercial agreements present an easy, viable, and efficient way for providers to expand their port-in capabilities.

## **B. Notice of Inquiry.**

**1. The PSTN NNP Solutions.** In the NOI, the Commission seeks comment on the viability of imposing NNP on the PSTN via four potential solutions, (1) nationwide LRNs; (2) non-geographic LRNs (“NGLRNs”); (3) commercial agreements; and (4) GR-2982-CORE specification. The North American Numbering Council (“NANC”) and ATIS have thoroughly analyzed and appropriately considered the potential costs, benefits, and barriers to implementation of each of these proposals. In AT&T’s opinion, that analysis demonstrates that implementing any

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<sup>5</sup> Statement of Chairman Ajit Pai, Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment, WC Docket No. 17-84, *Report and Order, Declaratory Ruling, and Further Notice of Proposed Rulemaking*, FCC 17-154, at 110 (2017).

<sup>6</sup> The IP network transition is impeded by the lack of clarity and finality in the Commission’s current intercarrier compensation regime. *See, e.g.*, Comments of AT&T, Connect America Fund, Establishing Just and Reasonable Rates for Local Exchange Providers, Developing a Unified Intercarrier Compensation Regime, WC Docket No. 10-90, WC Docket No. 07.135, CC Docket No. 01-92 (filed July 31, 2017). Intercarrier compensation reform would jump start that transition and thus indirectly, promote NNP.

of the three technical solutions—nationwide LRNs, NGLRNs, or GR-2982-CORE—in the PSTN would be problematic because of the age and limited capabilities of PSTN switch-based technologies, the lack of any significant immediate industry-wide benefit in implementing NNP within the PSTN, and the timing of NNP implementation relatively close to the release of next generation technologies.

The national LRN solution allows LRNs to be used outside of current LATA boundaries. The NGLRN solution would allow calls to a ported number associated with a non-geographic LRN to be routed to a non-geographic gateway that resides on an IP network. Both the national LRN and NGLRN solutions rely to a large extent on the existing PSTN infrastructure and would face similar hurdles—an inability to upgrade switches to accommodate ports from outside the LATA and route calls outside the LATA without an IXC (and other costs explained in the ATIS report). And, an NNP solution based on GR-2982-CORE involves significant complexities and is likely not feasible because it would require SS7 protocol, switch data model, and call processing development that cannot be performed due to the number of manufacture discontinued platforms.<sup>7</sup> In many cases, providers would be better off implementing entirely new systems and processes rather than trying to fit the nationwide LRN, NGLRN, or GR-2982-CORE solution into existing systems and processes, a senseless proposition with the expected deployment of next generation technologies just a few years away.

Instead of relying on solutions dependent on today's inflexible technologies, the Commission's NNP efforts should be forward-looking, such that NNP coincides with the transition to all IP networks. Until that transition, commercial agreements would allow providers to port-in numbers from geographic areas where they have no presence, all within the context of existing

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<sup>7</sup> ATIS NNP Report at 39.

number, routing, billing, and rating rules and systems. As the NANC recognizes, the commercial agreement solution “is the only one that can be supported today without significant changes or impacts to NPAC or service provider systems.”<sup>8</sup> The commercial agreement solution “allows for NNP to be achieved by using the facilities of third parties to provide a Point of Interconnection (POI) in the donor LATA and to deliver traffic from that POI to the network of the recipient provider in a distant LATA.”<sup>9</sup> Providers seeking to increase their port-in capacity would contract with any provider with access to numbering resources that can provide those POIs, such as a local exchange carrier, wireless provider, or interconnected VoIP provider.

Moreover, the three technical NNP solutions complicate and do not offer routing and interconnection solutions that are superior to those that currently exist, which is hardly surprising. Existing call routing, rating, and intercarrier compensation (and the equipment and systems that allow them to function) depend on the association of the rate center with the dialed number. NNP solutions that seek to remove that association add complexity and simply cannot be implemented in some situations in today’s legacy networks. Until the new generation of networks are developed and deployed, commercial agreements are the only practical solution to offer NNP benefits.

**2. Impacts on 911.** AT&T does not anticipate that NNP implementation (including changes proposed in the NPRM) will have major impacts on 911 because a 911 call is routed based on the location of the caller, not based on the rate center to which the caller’s NPA-NXX is assigned. As long as 911 location databases—the selective router database (“SRDB”) and automatic location identification (“ALI”) systems—include (or can derive) the relevant location information of the caller, the 911 call will route to the appropriate Public Safety Answering Point

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<sup>8</sup> *Id.*

<sup>9</sup> NANC White Paper at 12.

(“PSAP”). The critical issue is whether a provider’s selective router has been programmed to query the SRDB using an NPA-NXX that is not within the provider’s footprint of served rate centers. Many selective routers may not be capable of running that query today due to the standards for writing call routing translations, but can be reprogrammed to make the required query. SRDB/ALI systems are capable today of accepting a ported number and returning an emergency service number (“ESN”) for E911 call routing. Each unique ESN identifies the emergency service agencies for a geographical area. Where selective routing is activated, the ESN is the number used to deliver calls to the correct PSAP.

There is no need to use a wireline pseudo-ANI (pANI) arrangement for NNP. Implementing a wireline pANI system would require an architecture similar to the wireline and VoIP E911 Gateway Master Location Center (“GMLC”). Since GMLC functionality is analogous to a wireline selective router, adding this infrastructure would be inefficient and duplicative.

**3. Scope of Implementation.** The Commission should avoid a gradual or service specific transition to NNP. AT&T agrees with the NANC that NNP regulatory requirements should be technology and provider agnostic.<sup>10</sup> Implementing NNP across all providers simultaneously would be more efficient and decrease customer confusion.<sup>11</sup> Also, telephone numbers and numbering systems in the United States, including the NPAC database, are shared between all providers and support intermodal porting and calls between different services and technologies. In that environment, distinctions in porting requirements based on technology and services could skew the competitive landscape and deviate from the regulatory harmonization typically sought by the Commission for similar technologies.

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<sup>10</sup> *Id.* at 5.

<sup>11</sup> *Id.*



Dated: December 27, 2017

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert Vitanza", with a long horizontal flourish extending to the right.

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