

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

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

**COMMENTS OF
ITTA – THE VOICE OF AMERICA’S BROADBAND PROVIDERS**

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ITTA – The Voice of America’s Broadband Providers (ITTA) hereby submits its comments in response to the *NPRM and NOI* seeking comment on a potential move toward nationwide number portability (NNP) of mobile numbers and traditional wireline numbers.¹

I. INTRODUCTION AND SUMMARY

In this proceeding, the Commission explores a move toward complete NNP, with the goals of addressing two problems: First, the ability of a consumer moving a long distance to keep her telephone number when switching wireline or wireless service providers may depend on whether the service provider to whom she wants to switch is a nationwide service provider. Second, the lack of complete NNP harms the ability of small or regional carriers to compete, and thereby undermines competition.²

While the Commission’s aims are laudable, the realities of implementing NNP may, for many carriers, cause more harm than yield competitive benefits. Furthermore, carriers will be forced to pass along implementation costs to consumers, which, in turn, dilutes the consumer

¹ *Nationwide Number Portability; Numbering Policies for Modern Communications*, Notice of Proposed Rulemaking and Notice of Inquiry, 32 FCC Rcd 8034 (2017) (*NPRM and/or NOI*).

² *See id.* at 8035, para. 2.

benefits of NNP. ITTA cautions the Commission to keep this in mind as it evaluates the record in response to its proposal to implement NNP.

On balance, ITTA believes that the costs of implementing NNP far eclipse the benefits it would bring consumers and carriers. In light of the substantial amount of legacy equipment still in use, implementing NNP would force carriers to expend resources to upgrade equipment and/or invest in legacy infrastructure, which would be unwise when such resources would be better devoted to transitioning to IP-based networks.

If NNP nevertheless is to be implemented, the only practical model for doing so is via commercial agreements, which would mitigate some of the staggering costs ILECs would otherwise incur. The Commission also should consider the effects of NNP implementation on the universal service contribution mechanism. At least until NNP is ready to be implemented, the Commission should decline to adopt the *NPRM*'s proposal to eliminate the N-1 query requirement. And regardless of whether the Commission implements NNP, it should remove its remaining dialing parity requirements.

II. THE COSTS OF IMPLEMENTING NNP OUTWEIGH THE BENEFITS

The Commission's pro-consumer and pro-competition goals in this proceeding are laudable. ITTA is concerned, however, that the costs of implementing NNP would far eclipse the benefits its members would receive or that consumers would enjoy.

At this juncture, there is a substantial level of legacy equipment still in use in the network. Choosing any implementation solution other than commercial agreements³ would require massive equipment upgrade expenditures and take years to realize. To illustrate, some carriers have thousands of switches in their network. Even in the unlikely event that they were to

³ See *infra* Sec. III.

upgrade one switch per day, it could require well over a decade to complete the task. The costs of the equipment upgrades and the personnel resources to install them would be staggering.

In evaluating service provider impacts of implementing NNP, the non-geographic number portability subcommittee of the North American Numbering Council's (NANC) Local Number Portability Administration Working Group (LNPA WG) enumerated a laundry list of potential technical challenges. Among the over one dozen were:

- The potential need for non-national providers to expand their systems, including National NPAC connectivity, to allow any TN in any NPA NXX to be ported in their area;
- The likely need for significant changes to carrier operations support systems (OSS) and billing systems;
- New ways of billing calls may be required if Local Calling Areas, Extended Area Service, and toll calls go away and all intrastate calls are now local; and
- Impacts to toll free services and the service providers who offer them would need to be investigated as the current toll free environment operates based on geographic locations of NPA-NXX's and LATAs.⁴

As the LNPA WG concluded, “the massive complexity and cost of this undertaking will certainly require significant analysis and an extended duration of time to design, re-engineer, and implement.”⁵

⁴ North American Numbering Council, Local Number Portability Administration Working Group, White Paper on Non-Geographic Number Portability at 7-8 (Aug. 30, 2016) (NGNP White Paper), available via http://www.nanc-chair.org/docs/mtg_docs/Sep16_LNPA_WG_Report.docx (embedded within the LNPA WG's September 15, 2016 Status Report to the NANC, under the heading “Nationwide Number Portability (NNP)”).

⁵ *Id.* at 11.

Requiring carriers to absorb these costs also would be questionable policy when, at the same time, the Commission is seeking to encourage the transition to IP-based networks. As Chairman Pai recently wrote, “every dollar that is spent maintaining fading copper networks cannot be spent on fiber. . . . [D]igital opportunity is denied when the FCC’s rules force carriers to maintain the networks of yesteryear.”⁶ The LNPA WG’s findings with respect to NNP implementation captured the same theme: “Some Service Providers may already be making plans or undergoing system and switch upgrades to support and implement IP with upgraded equipment and given the industry is moving away from TDM-based networks, the re-engineering of the TDM environment to support NGNP would be costly and the benefits short-lived.”⁷ At some point in the future, there will be few enough TDM switches remaining in the network that contemplation of NNP may be appropriate, but that time has not yet arrived.

III. IF NNP IS TO BE IMPLEMENTED, THE ONLY WORKABLE MODEL IS VIA COMMERCIAL AGREEMENTS

The *NOI* seeks comment on four of the specific models of NNP outlined in the Technical Report on NNP prepared by the Alliance for Technical Industry Solutions (ATIS): (1) nationwide implementation of Location Routing Numbers (LRNs); (2) non-Geographic LRNs (NGLRNs); (3) commercial agreements; and (4) iconectiv’s GR-2982-CORE specification.⁸ Should the Commission move forward with implementation of NNP, ITTA believes that the only reasonably implementable model is commercial agreements.

⁶ *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, Report and Order, Declaratory Ruling, and Further Notice of Proposed Rulemaking, FCC 17-154, at 109, Statement of Chairman Ajit Pai (Nov. 29, 2017).

⁷ NGNP White Paper at 11.

⁸ *See NPRM and NOI*, 32 FCC Rcd at 8046, para. 40; *see* ATIS, ATIS-1000071, Technical Report on a Nationwide Number Portability Study (2016) (ATIS Report), https://apps.fcc.gov/edocs_public/attachmatch/DOC-340865A1.pdf.

As the *NOI* observes, the LNPA WG found that the commercial agreements model is “the only one” that can be supported without significant changes to or impacts on the Number Portability Administration Center/Service Management System (NPAC) or service provider systems.⁹ The commercial agreements model mitigates some of the cost concerns discussed above insofar as service providers may leverage the use of their current legacy equipment. In addition, it is a solution that can be dictated by market forces. A simple illustration involves smaller rural and regional wireless carriers. To counter their inability to port-in wireless numbers from disparate parts of the country,¹⁰ such carriers may achieve the same number portability result by securing agreements for nationwide roaming.

In contrast, the other models all suffer from numerous technical or competitive impediments and prohibitive costliness. The two LRN-based solutions essentially endeavor to “fool” existing systems into routing a call a certain way. However, implementing them may require many carriers to upgrade or replace existing equipment, and may complicate routing processes.¹¹ The GR-2982-CORE model is exceedingly complex and very likely infeasible, and both the LNPA WG and ATIS assess that it would impact “all switches and number portability databases,” as well as service order administration and local service management systems across the country.¹² Even if this was realistically feasible to implement as a technical matter, the costs would be prohibitive, particularly for wireline carriers.

⁹ See *NPRM and NOI*, 32 FCC Rcd at 8050, para. 56 (citing NGNP White Paper at 12).

¹⁰ See *id.* at 8037, para. 8 (Competitive Carrier Association claims regarding the competitive disadvantage endured by rural and regional wireless providers).

¹¹ See *id.* at 8047, 8049, paras. 41, 52 (citing ATIS Report at 11-12, 23).

¹² See *id.* at 8050, paras. 58, 60 (citing NGNP White Paper at 13-14, ATIS Report at 15-21); see also ATIS Report at 39 (“Since implementation of NNP along the lines of GR-2982-CORE would require SS7 protocol, switch date model, and call processing development, it is unlikely that GR-2982-based NNP implementation is feasible due to the number of manufacture discontinued platforms on which such development is not available (or sensible).”).

While the commercial agreements model is the only one the Commission should consider if it decides to implement NNP, that model could result in significant consumer confusion. In the course of addressing the national LRN model, the *NOI* observes that some customers need only dial seven digits of a local number, others must dial ten digits, and still others must dial 1 and ten digits.¹³ It also asks how consumer experiences will be affected, and whether call completion issues may transpire.¹⁴

In the event that a ten-digit number that is ported into a seven-digit dialing area where the NXX has the same digits as the NPA of the ported number, there may be a significant switch processing delay before the call is identified as a seven-digit call rather than ten and routed as appropriate. Further, only a single instance of such a port into a seven-digit dialing plan could potentially affect entire NXXs of seven-digit dialed calls with post dial delay. Few consumers are accustomed to such delays, and the vast majority of those who are not will lose patience or assume that there is a connection problem and hang up or even submit complaints. This will entail a massive consumer education campaign to overcome perceived call completion problems.

Notwithstanding it being less costly to implement than the other identified solutions, any mandate for a commercial agreements model also may still result in prohibitive implementation costs. The costs of securing all necessary commercial agreements stand to be monumental, and would far outstrip any conceivable benefits of customer acquisition or retention, as well as the intangible consumer benefit of avoiding a change in telephone number.

¹³ See *NPRM and NOI*, 32 FCC Rcd at 8048, para. 46.

¹⁴ See *id.* at para. 48.

IV. NNP IMPLEMENTATION COULD CAST FURTHER UNCERTAINTY INTO THE UNIVERSAL SERVICE CONTRIBUTION MECHANISM

Apart from seeking comment on the model for implementing NNP, the *NOI* also seeks comment on various other necessary changes and challenges to achieving NNP.¹⁵ One area upon which it does *not* seek comment, however, is the effects of NNP on universal service. For instance, the effect of NNP on whether certain calls change their status of being intra- or interstate has an impact on how revenues are reported on FCC Form 499, which itself has a direct effect on the universal service contribution mechanism. If the Commission is to implement NNP, it first should seek comment on and resolve the impact of NNP on the current universal service contribution mechanism.

V. THE COMMISSION SHOULD REFRAIN FROM REMOVING THE N-1 QUERY REQUIREMENT, AT LEAST UNTIL NNP IS READY TO BE IMPLEMENTED

The *NPRM* proposes taking an incremental approach toward achieving NNP.¹⁶ As a first step, the Commission proposes to eliminate the N-1 query requirement, suggesting that it has outlived its usefulness in light of a changed competitive landscape.¹⁷ ITTA urges the Commission to refrain from making this change.

The *NPRM* asks whether costs will increase as a result of rescinding the requirement.¹⁸ ITTA believes they certainly will. Currently, under the requirement, the N-1 carrier, which is the carrier immediately preceding the terminating carrier, is responsible for ensuring that the number portability database is queried. Removing the requirement threatens to shift the costs of number portability database inquiries from interexchange carriers (IXCs) to others, including originating LECs, thus upsetting the current balanced approach to distributing the costs of performing

¹⁵ *See id.* at 8051-52, paras. 61-67.

¹⁶ *See id.* at 8041, para. 19.

¹⁷ *See id.* at 8041-42, paras. 21-22.

¹⁸ *See id.* at 8042, para. 22.

queries generally among IXCs and originating LECs.¹⁹ Instead of performing number portability database queries only for local calls, originating LECs may have to perform queries for every call originated to the customer of another carrier.²⁰

Costs would also increase because removing the N-1 query requirement would interfere with the current number portability querying system.²¹ Currently, there are separate number portability databases for each of seven regions of the country. To the extent an originating LEC is the N-1 carrier for an intraLATA call, it queries the number portability database of the region in which it resides. Because eliminating the N-1 query requirement could now force originating LECs to perform number portability database queries for local and long distance calls, LECs would be required to have access not just to their region's number portability database, but also to the databases of the other six regions. This will substantially increase costs, especially for smaller LECs, which they will then have to recoup from end users or through intercarrier arrangements.

Even if originating LECs do not become saddled with the responsibilities (and costs) of performing all number portability database queries, elimination of the N-1 query requirement would lead to vast confusion over who is responsible to do the querying. As the ATIS Report states, a carrier “could choose to query all calls on their originating network, and route calls to

¹⁹ *See id.* at 8039, para. 15.

²⁰ “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.” Letter from Michael R. Romano, Senior Vice President – Industry Affairs & Business Development, NTCA – The Rural Broadband Association, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 17-244 and 13-97, Attach., March 16, 2016 Letter from Michael R. Romano and Brian J. Ford, NTCA – The Rural Broadband Association, to Betty Ann Kane, Chairman, Public Service Commission of the District of Columbia at 3 (filed Oct. 16, 2017).

²¹ *See NPRM*, 32 FCC Rcd at 8042, para. 22 (seeking comment on whether removing the requirement would interfere with any aspects of the current routing or number portability querying system).

the NNP numbers accordingly, or they could choose to handle calls as they do today, i.e., if a call looks like it is interLATA, hand it off to the IXC and let the IXC query the call.”²² Thus, in the absence of commercial agreements dictating who is to do the querying,²³ if the Commission were to eliminate the N-1 query requirement, it should seek comment on a default replacement mechanism to ensure that queries are performed “by the parties best placed to do so”²⁴ and that “costs of the system [are] allocated appropriately.”²⁵

If the Commission were to eliminate the N-1 query requirement – which it should not – it should only do so once all NNP systems are ready to be implemented. If the Commission ultimately determines that NNP should be implemented via commercial agreements, it would make sense for the Commission not to eliminate the N-1 query requirement until such agreements are in place since NNP could not be implemented until that time. As discussed above, if NNP were to be implemented via a different model, the Commission should not remove the N-1 query requirement until it has established which party is best placed to perform the queries.

In sum, the N-1 query requirement has worked well for nearly two decades. Removing it would upset the balance with which the number portability querying system is imbued. If the Commission nevertheless were to do so, doing so before NNP is ready to be implemented would be detrimental to LECs and end users alike. And, in the absence of establishing querying responsibilities via commercial agreements, the Commission should seek comment on a default

²² *Id.* at para. 23 (citing ATIS Report at 23, 8.1.2 (N-1 Query Requirement)).

²³ *See supra* Sec. III.

²⁴ *NPRM*, 32 FCC Rcd at 8042, para. 23.

²⁵ *Id.* at para. 22. *See also id.* at para. 23 (seeking comment on whether there are benefits to the Commission requiring particular parties to perform the query).

replacement querying standard so that confusion about who is responsible to perform the query does not reign following elimination of the requirement.

VI. THE COMMISSION SHOULD ELIMINATE THE REMAINING DIALING PARITY REQUIREMENTS

The *NPRM* recognizes that the decline of the stand-alone long distance market has limited the relevance and utility of certain equal access obligations such as those promulgated by the Commission pursuant to Section 251(b)(3) and (g) of the Communications Act of 1934, as amended.²⁶ The Commission forbore from those requirements two years ago as they apply to ILEC provision of interexchange access services.²⁷ The Commission now seeks comment on extending this forbearance to “grandfathered” customers who still maintain accounts with stand-alone long-distance providers, and proposes to eliminate its dialing parity rules.²⁸ For the same reasons that the Commission two years ago generally forbore from these requirements as they apply to ILECs – reasons which have only become more pronounced as the market has continued to evolve since that time – ITTA supports extension of the forbearance to grandfathered customers and elimination of the Commission’s dialing parity rules altogether.

ITTA believes that the dialing parity forbearance adopted in the *2015 USTelecom Forbearance Order* applies to intrastate interexchange service.²⁹ As the *NPRM* observes, if

²⁶ See *id.* at 8040, para. 17; 47 U.S.C. § 251(b)(3),(g).

²⁷ See *Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) from Enforcement of Obsolete ILEC Legacy Regulations That Inhibit Deployment of Next-Generation Networks et al.*, Memorandum Opinion and Order, 31 FCC Rcd 6157, 6184-89, paras. 49-54 (2015) (*2015 USTelecom Forbearance Order*).

²⁸ See *NPRM*, 32 FCC Rcd at 8043, para. 25.

²⁹ See *2015 USTelecom Forbearance Order*, 31 FCC Rcd at 6184, para. 48 n.144 (“[S]ection 251(b)(3) creates a duty to provide dialing parity to competing providers of telephone exchange service with respect to all telecommunications services that require dialing to route a call, and encompasses international as well as interstate and intrastate, local and toll services. . . . Nothing in the statutory language limits the scope of the dialing parity obligation to exchange and toll services or distinguishes among the various types of telecommunications services in imposing the dialing parity obligations.”) (quoting *Implementation of Local Competition Provisions in the*

(continued...)

numbers can be ported on a nationwide basis, “the number might actually be in the same LATA, meaning that transfer to an interexchange carrier of the customer’s choosing would result in persistently inefficient routing, with potentially concomitant delays and costs. Eliminating the remaining dialing parity requirements may allow originating carriers to avoid these inefficiencies by increasing their choices.”³⁰ This same problem could occur with NNP regardless of whether the call is inter- or intrastate. Thus, the Commission either should clarify that the forbearance adopted in 2015 applies to intrastate interexchange services, or preempt any state-specific intrastate dialing parity requirements that still remain.

In the absence of either of these measures, the Commission’s implementation of NNP, should the Commission decide to do so, may somewhat be thwarted. In addition, the Commission may find that its objectives of eliminating inefficiencies and constraints associated with the dialing parity requirements may only come to partial fruition.

VII. CONCLUSION

The Commission’s exploration of NNP is certainly well-intentioned insofar as it is geared towards bestowing a direct consumer benefit and redressing competitive impediments experienced by regional and smaller providers. Unfortunately, at least at this juncture, the costs of implementing NNP will far surpass the benefits, and do more harm than good for the small carriers that in theory are to gain from it. If NNP nevertheless is to be implemented, such implementation must be achieved through commercial agreements. While the Commission

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Telecommunications Act of 1996, Second Report and Order and Memorandum Opinion and Order, 11 FCC Rcd 19392, 19409, para. 29 (1996)).

³⁰ *NPRM*, 32 FCC Rcd at 8041, para. 18.

should sunset its dialing parity rules regardless of whether it implements NNP, it should keep the N-1 query requirement in place, at least unless and until NNP is implemented.

Respectfully submitted,

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