Before the
Federal Communications Commission
Washington, D.C. 20554

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

COMMENTS OF THE ALLIANCE FOR
TELECOMMUNICATIONS INDUSTRY SOLUTIONS

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SUMMARY

ATIS supports the proposed rule changes to the N-1 query requirement, extending forbearance of the Commission's toll dialing parity requirements, and eliminating the mandate on interexchange dialing parity, noting that these changes would support implementation of nationwide number portability (NNP). However, it believes that these rule changes, while beneficial, are not sufficient in and of themselves to achieve NNP. As acknowledged in the *NPRM*, ATIS agrees that the rule on dialing parity is outdated and may hinder the ability of service providers to offer unique competitive services.

ATIS notes that its report on NNP outlined potential approaches for achieving NNP and described the benefits and limitations of each. This report noted that the commercial agreement solution is the only one that can be supported today that has no porting impacts.

Facilitating a national location routing number (national LRN) or non-geographic LRN (NGLRN) approach: would require that carriers examine changes that may be necessary to their systems, processes, and equipment; may necessitate updates to the existing Industry Numbering Guidelines and/or the development of new guidelines; and would require a more detailed analysis and possibly testing. Implementing the NGLRN approach also could require significant economic and technical changes. ATIS further notes that the GR-2982-CORE approach cannot be implemented given its impacts on legacy, manufacturer-discontinued network elements.

ATIS does not believe that the changes in routing and queries will have significant impacts on the routing of 911 or NG911 calls, as the mechanisms used for routing 911 calls are independent of those used for routing calls to portable/ported numbers. ATIS maintains it would be beneficial to clarify whether the ongoing application of rate centers in an NNP environment would be necessary to determine geographic location for some services. The Commission should also consider the goal of a nationwide 10 digit dialing plan to mitigate customer confusion.

In order to best avoid call completion issues in a national LRN system, ATIS believes that all stakeholders should participate in the development of standards should this approach be adopted in order to facilitate its ubiquitous implementation. ATIS maintains that the selection and implementation of a NNP approach should be technology-neutral in an environment in which all technologies transition toward NNP at the same time.

With regard to the NGLRN approach, ATIS believes that carriers should not be required to provide non-geographic gateway service or NNP service; the only requirement should be that carriers have the ability to route calls to NGLRNs.

ATIS does not support the implementation of new restrictions associated with commercial agreements, noting that service providers are already voluntarily entering into these agreements based on existing industry standards without any regulatory oversight.

ATIS notes that the most significant 911 or E911 issue with respect to number portability (both LNP and NNP) is the ability to deliver callback information associated with emergency calls originated by ported users to PSAPs that support MF interfaces from their serving Selective Routers.

Finally, ATIS notes that any changes to the current methods of numbering plan, number pooling, and number portability administration would require a thorough review of guidelines, processes, etc., in order to identify all impacts for service providers, consumers, and systems.

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The Alliance for Telecommunications Industry Solutions (ATIS), on behalf of its Packet Technologies and Systems Committee (PTSC), Industry Numbering Committee (INC), Ordering and Billing Forum (OBF), and Next Generation Interconnection Interoperability Forum (NGIIF) hereby submits these comments in response to *Notice of Proposed Rulemaking* (*NPRM*) *and Notice of Inquiry* (*NOI*), released October 26, 2017, in the above-referenced dockets. As the Commission recognizes in the *NPRM* and *NOI*, ATIS has played, and continues to play, a significant role in examining technical and operational impacts associated with NNP. ATIS is pleased to have the opportunity to provide its input on the significant issues raised in the above-referenced *NPRM* and *NOI*.

I. BACKGROUND

ATIS is a global standards development and technical planning organization that develops and promotes worldwide technical and operations standards for information, entertainment, and communications technologies. ATIS works on many important issues on

behalf of the industry, including number portability. Through ATIS' industry committees,

numbering-related issues are addressed to determine their technical and operational impacts,

including the impacts on the provisioning, ordering and billing of telecommunications services.

This work has been accomplished through ATIS':

- **PTSC**, which develops and recommends standards and technical reports related to services, architectures, and signaling. PTSC's work programs focus on issues such as Emergency Telecommunications Service (ETS), cybersecurity, IP-to-IP interconnection, lawfully authorized electronic surveillance and the evolution of the public switched telephone network (PSTN).
- **INC,** which addresses and resolves industry-wide issues associated with planning, administration, allocation, assignment, and use of the North American Numbering Plan (NANP) numbering resources within the NANP area. INC guidelines and recommendations are used by the North American Numbering Plan Administration (NANPA), the National Pooling Administrator (PA), and the Canadian Radio-Television and Telecommunications Commission (CRTC) in the management of numbering resources.
- **OBF**, which creates the collaborative standards and solutions that ensure accurate billing for the industry's core services as well as emerging innovations. OBF is a key resource for resolving key issues and creating ordering, billing, provisioning and exchange of information solutions about access services as well as other connectivity between telecommunications customers and providers.
- **NGIIF**, which provides an open forum to encourage the discussion and resolution of industrywide issues associated with the operational aspect of telecommunications network interconnection and interoperability, and the exchange of information concerning relevant topics, such as network architecture, management, testing and operations, and facilities.

As noted in the *NPRM/NOI*, ATIS PTSC approved a Technical Report on a Nationwide

Number Portability Study (*ATIS Report*) on June 20, 2016.[1] The *ATIS Report* analyzes potential

solutions for achieving NNP: (1) nationwide implementation of Location Routing Numbers

(national LRNs); (2) non-Geographic LRNs (NGLRNs); (3) commercial agreements; and (4)

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[1] *See NPRM/NOI* at ¶10, ¶40 *et seq*. ATIS *Technical Report on a Nationwide Number Portability Study* (ATIS-1000071) is available for electronic download at no charge from the ATIS Document Center at https://www.atis.org/docstore/product.aspx?id=28281.

iconectiv's GR-2982-CORE specification. This report noted that the commercial agreement solution is the only one that can be supported today that has no porting impacts.

II.   *NPRM* COMMENTS

A.   Changes to N-1 Query and Toll Dialing Parity Requirements

In the *NPRM*, the Commission seeks comment on whether the N-1 query requirement impedes plans for NNP such as the non-geographic Local Number Portability (LNP) proposal, noting that the *ATIS Report* explains that, in an NNP environment, an originating carrier could not determine whether a dialed number required interexchange routing or not without performing a query.[2] The Commission also seeks input on extending forbearance of its toll dialing parity requirements[3] to the provision of interexchange access services by competitive LECs, extending forbearance to "grandfathered" customers who still maintain accounts with stand-alone long-distance providers, and eliminating the Commission's rules that mandate interexchange dialing parity and other associated requirements.[4]

As explained more fully below, ATIS supports these proposed rule changes, noting that these would simplify and facilitate implementation of NNP. However, these rule changes are important but not sufficient in and of themselves to achieve NNP. There will be impacts associated with these changes and ATIS urges carriers who have not already done so to fully evaluate the impacts of moving the query from N-1 to the originating switch, and in particular the changes that may be needed to ensure that the appropriate information is available to the originating switch. As mentioned in the *ATIS Report*, it would be important to ensure the call is

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[2] *NPRM* at ¶20, citing *ATIS Report*, Section 8.1.2.
[3] *See* 47 C.F.R. §§ 251(g), 251(b)(3).
[4] *NPRM* at¶ 25. ATIS notes that the *NPRM* suggests that NNP would be more feasible in an environment in which originating carriers could query all calls and were responsible for providing all distance service (local and long distance) to its customers as is the case for wireless providers and many wireline providers.

queried before it gets to the network that is assigned the CO code. It also is important to understand that additional standards coordination and changes to carrier systems and processes would be required. Because of the potential impacts of these proposed rule changes, the timeline of this forbearance will be important. Additionally, in the interest of consumer benefit, the implementation of the rule changes to the N-1 query rules is best done when an industry agreed to NNP solution is implemented. ATIS further notes that, even if the proposed forbearance is granted, there may be situations in which contractual relationships between carriers and their customers require continued use of the N-1 query.

B.   Impact of Proposed Rule Changes on Today's LNP Approach

The proposed forbearance from dialing parity appears to be a continuance of recent actions by the commission to forbear from these same rules,[5] which ATIS has supported and continues to support in its recent filing.[6] The Commission acknowledges in the *NPRM*[7], and ATIS agrees that the rule is outdated and no longer provides the protections the rule was intended to provide, and now may hinder the ability for service providers to offer unique competitive services.

ATIS also supports the Commission's proposal to eliminate the N-1 query requirement to give service providers more flexibility, but cautions that: (1) a number of providers would likely continue to use the N-1 query until implementation of NNP; and (2) an alternative method must be implemented in a standardized, coordinated fashion. Doing so would limit the impacts of the additional query requirements to those service providers implementing NNP. It would also avoid the premature imposition of consumer tariff rate adjustments or inter carrier cost allocation and

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[5] *See* Memorandum Opinion and Order on Petition of USTelecom for Forbearance (Adopted: December 17, 2015).
[6] *See* ATIS Comments, ET Docket No. 17-215 (submitted October 30, 2017)
[7] *NPRM* at ¶25.

associated agreements that would be necessary prior to the ability of the consumer to take advantage of NNP. Further, it would eliminate the need to rework the terms of intercarrier agreements once a service provider implements NNP. Finally, ATIS notes that, until NNP is implemented, some regional service providers may unnecessarily be forced to expand their query capability beyond the NPAC region by which they are currently served. The cost of expanding such capability provides no consumer benefit until NNP is implemented. Originating service providers who are not currently capable of performing a routing query will need to develop that capability to support NNP. ATIS maintains that a lack of current capability should not delay the permissive implementation of NNP for service providers who can support it.

1. **Impact of Proposed Rule Changes on Commercial Agreement Approach**

The rule changes contemplated by the Commission are unnecessary for commercial agreements and would provide little value. Commercial agreements should accommodate these rules.

2. **Impact of Proposed Rule Changes on National LRN Approach**

The rule changes contemplated by the Commission could support implementation of NNP via the national LRN approach, although technical challenges remain. The national LRN approach allows a number to be ported to a foreign LRN – one with an NPA-NXX outside the local access and transport area (LATA) of the ported number. Conventionally, an originating carrier does not perform an LNP query on numbers outside of the LATA but routes the call instead to an IXC (the N-1 carrier) for query. In an NNP environment, this could cause a foreign number ported into a LATA to be sent unnecessarily to an IXC and might generate unnecessary toll charges. An originating service provider query would prevent this. On the other hand, if a local number is ported out of the LATA, an originating service provider query would allow

proper routing, but the resulting toll charges might be unanticipated by the caller (unless the

caller has an any distance calling plan).

Implementation of an LRN-based NNP approach would be contingent on the capability

of legacy TDM originating switches to make the necessary queries and to route accordingly.[8]

ATIS notes that the following challenges exist:

- The capability to query on calls to NPA-NXXs outside the LATA may not be uniformly supported. This capability was a conditional requirement in ATIS' *Technical Requirements for Number Portability – Switching Systems Number* (T1.TRQ.2-2001) and it is not clear that all platforms have implemented it.
- It is not clear how the existing six digit query triggers can accommodate the number of foreign NPA-NXX ports. There may be too many potential NPA-NXXs for the normal six digit (NPA-NXX) triggers to be employed for NNP, due to switch table limitations, and they would need to be provisioned whenever a number with a new foreign NPA-NXX is ported into a LATA.
- Even assuming a successful query, the switch must be able to override the normal requirement that the type of route (local or IXC) be selected based on analysis of dialed number before query rather than on the LRN.[9]
- Carriers must have access to all seven NPAC regions, either directly or through third-party commercial arrangements. It should be noted that the switches of many small and larger regional carriers do not have direct access to all seven NPAC regions. If they initiate an LNPA query on a telephone number in a region for which they do not have access and for which no commercial arrangement has been made, these carriers will not receive the appropriate information back.

The fact that LRNs are assigned on a per-switch, per-LATA basis also has important

implications. When a foreign number ports into a LATA, neither the dialed number nor the LRN

will allow determination of whether a call to the number from within the ported-to LATA is

local, Extended Area Service (EAS), or IntraLATA toll. To the extent these distinctions remain

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[8] Carriers with legacy TDM switches that cannot perform these functions also could enter into agreements with third parties to perform these functions on their behalf.
[9] T1.TRQ.2-2001, REQ 01100.

important for routing, end user billing, or intercarrier settlements, implementation of NNP via a national LRN approach will remain problematic.

Carriers also need to consider potential billing and settlement impacts of numbers ported outside the LATA, including what modifications might be required to ensure that jurisdiction-related factors (such as taxes) will be properly handled. ATIS notes that, where service offerings such as Lifeline may restrict the caller to local-only service, originating carriers that cannot or do not implement a LNP query may not be able to properly jurisdictionally classify calls, resulting in possibly allowing toll calls to local numbers ported out to foreign LATAs or denying local calls to foreign numbers ported into the LATA. As a result, all calls, including all local calls, would need to be queried.[10]

Carriers that wish to implement the national LRN approach to NNP by porting in foreign numbers must also ensure that calls to 911 can function properly. While this would not be an issue for wireless or VoIP providers using alternate 911 routing arrangements, challenges may exist in situations where a multi-frequency interface to the Public Safety Answering Point (PSAP) limits the number of Numbering Plan Areas (NPAs) that can be signaled.

3.   Impact of Proposed Rule Changes on Non-Geographic LRN Approach

The rule changes proposed in the *NPRM* could also facilitate implementation of NNP via the Non-Geographic LRN (NGLRN) approach, although this forbearance is not sufficient to ensure effective implementation of this approach.   The NGLRN approach handles porting numbers outside of the LATA by associating them to non-geographic LRNs formed from a special non-geographic NPA. Calls to numbers on NGLRNs would be routed to special

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[10] ATIS notes that some service providers already query all originating calls.

gateways so that the calls can be completed over an IP network that provides transport from the originating LATA to the terminating carrier.

The rule changes contemplated in the *NPRM* could also simplify implementation of NNP using the NGLRN solution but may not be sufficient to render it feasible. The jurisdictional issues identified above for the national LRN approach would also need to be addressed for the NGLRN approach.

Finally on this issue, ATIS notes that an originating query for all calls would be helpful in NGLRN (as it would be for a national LRN) to avoid routing what might turn out to be a local call to an IXC. ATIS notes that implementation of an NGLRN approach also requires carriers to consider the same potential billing and settlements impacts as identified above for the national LRN approach. The NGLRN approach, however, does not present the same 911-related challenge as the national LRN approach because the NGLRN approach would restrict NNP port-ins to wireless and VoIP carriers. Such a limitation would inhibit implementation of complete NNP and frustrate efforts to promote competition among all service providers, regardless of size or type of service (wireline or wireless).[11]

C.   911/NG911 Impacts of Proposed Rule Changes/Forbearance

The Commission seeks comment on whether anticipated changes in routing and queries (i.e., the elimination of N-1 queries) might impact the routing of, or provision of necessary information related to 911 or Next Generation 911 (NG911) calling.[12]   ATIS does not believe that these changes will have significant impacts to the routing of 911 or NG911 calls.

ATIS notes that the mechanisms used for routing 911 calls are independent of those used for routing calls to portable/ported numbers. In a traditional E911 environment, when a wireline

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[11] *NPRM* at ¶3.
[12] *NPRM* at ¶24.

end office or wireless Mobile Switching Center (MSC) detects that a caller has dialed "911," it will use traditional trunk selection procedures to select the outgoing trunk over which the call will be routed to/toward an E911 tandem switch/Selective Router. Typically, the trunk group from the end office/MSC to the Selective Router is a dedicated Signaling System Number 7 (SS7)-controlled or multi-frequency (MF) trunk group. The Selective Router will interact with a Selective Routing Database (SRDB) to identify the target PSAP for the call based on the telephone number/Automatic Number Identification (ANI)/pseudo-ANI (pANI) signaled with the 911 call. Calls to 911 do not trigger a query to a Number Portability Database, so the removal of the N-1 requirement will not have an impact on 911 call routing in an E911 environment.

In an NG911 environment, emergency calls are routed based on a routing location associated with the emergency call. This routing location may be in the form of geo-coordinates or a civic (street) address. If the originating network is a legacy network, the end office/MSC will route the call over a dedicated MF or SS7 trunk group to a gateway system upon detecting the digits "911." The gateway system will be responsible for associating a routing location with the caller's telephone number/ANI/pANI and using that location information to route the call to the NG911 network. The NG911 network will use the same location information to route the call to the appropriate PSAP. If the 911 call originates in an IP-based network, the originating network will be responsible for acquiring the routing location and using that location to route the emergency call to the NG911 network. Like 911 calls processed in an E911 environment, the routing of 911 calls in an NG911 environment will not be impacted by the removal of the N-1 requirement associated with number portability.[13]

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[13] ATIS notes that, while the implementation of NNP may have an impact on the delivery of necessary information (i.e., callback number) to the PSAP, these considerations are independent of the N-1 query requirement.

The Commission also seeks comment on whether there are effects resulting from proposed forbearance from the interexchange dialing parity requirements on 911 or NG911, or other aspects of emergency calling.[14] ATIS notes that the interexchange dialing parity requirements do not apply to 911 calls. Since 1968, the three digit telephone number "911" has been designated as the "Universal Emergency Number" for citizens throughout the U.S. to request emergency assistance. As described above, emergency call routing in an E911 environment is typically accomplished via dedicated trunk groups from end offices/MSCs to the Selective Routers that are designated for the caller's geographic area. This routing does not involve interexchange carriers.

D. Other Rules Impacting NNP

In the *NPRM*, the Commission asks whether any forbearance and rule changes should happen first to make NNP workable, in advance of implementing any technical solutions, or alternatively whether the Commission should defer these rules changes until technical solutions are in place.[15] ATIS believes it would be beneficial to clarify whether the ongoing application of Rate Centers in an NNP environment would be necessary to determine geographic location for some services (e.g., intraLATA toll).

ATIS also recommends that, if NNP is implemented, the Commission should consider the goal of nationwide 10 digit dialing plan to mitigate customer confusion. For example, this could be experienced as the result of differences in dialing pattern as well as the potential for post dial delay.[16] As noted in the ATIS report, *The Path to a Uniform Dialing Plan: Nationwide 10-Digit*

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[14] *NPRM* at ¶29.
[15] *NPRM* at ¶36.
[16] In the event where a number is ported into a seven digit dialing area with an NPA that is the same as the NXX of the seven digit dialing plan, all seven digit dialed numbers will require post dial delay to allow for the potential for dialing the ported number.

Dialing, ATIS believes that migration to a consistent 10-digit dialing plan is already occurring and should be allowed to continue without disruption or mandate, through implementation of overlays as area code relief is needed, to minimize the overall impact to network equipment, service provider systems and processes, and customers.[17]

III.   *NOI* COMMENTS

In the *NOI*, the Commission seeks comment on the approaches to NNP outlined in the *ATIS Report*: (1) nationwide implementation of LRNs; (2) non-Geographic LRNs (NGLRNs); (3) commercial agreements; and (4) iconectiv's GR-2982-CORE specification.[18] ATIS notes that this report describes in detail many of the challenges associated with these approaches.

Commercial Agreements. The *ATIS Report* concludes that the commercial agreements approach is already feasible and possible. These agreements exist and are in place today. ATIS has concluded that the commercial agreement approach is the least impactful to the legacy TDM networks that exist within the industry while achieving the multiple policy goals of the Commission. By minimizing the impact to legacy networks (and associated costs of changes to these networks), the commercial agreements approach also would encourage service providers to continue to invest in the transition from TDM to IP.

National LRN, NGLRN. As noted above, any changes to facilitate nationwide LRN or NGLRN requires that carriers examine changes that may be necessary to their systems, processes, and equipment. Additionally, potentially significant updates to the existing Industry Numbering Guidelines[19] and/or the development of new guidelines would likely be necessary,

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[17] *See* Letter from ATIS INC to Henning Schulzrinne, Chief Technology Officer, Federal Communications Commission (January 29, 2014).

[18] *NOI* at ¶40.

[19] Available from the ATIS website at < http://www.atis.org/01_committ_forums/inc/documents/ >.

the approval of which would need to happen concurrently with system/process/equipment changes to ensure that NNP could be implemented in a timely manner.

ATIS further notes that a more detailed analysis, and possibly testing, must be completed to fully evaluate the NGLRN approach. Service providers have built their operational support systems and network processes around the existing number allocation and porting systems and processes. Implementing the NGLRN approach could require significant economic and technical changes. These may include reconfiguration of the legacy TDM network to facilitate routing, a change that would require further investment in the legacy networks.[20] ATIS is concerned that the associated burdens may outweigh the benefits of NNP. Absent the introduction of the NGLRN approach, ATIS is not aware of any issues with the current processes of number allocation and porting that require a significant overhaul of the entire ecosystem or warrant introducing the complexity of multiple distributed registries when existing systems and authorities are sufficient.[21]

GR-2982-CORE. Finally, ATIS notes that the GR-2982-CORE approach cannot be implemented given its impacts on legacy, manufacturer-discontinued network elements.

A. 911 Changes/Interdependencies of National LRN Approach

The Commission notes that the national LRN, if implemented, could implicate non-routing issues and seeks comment on what dependencies may exist that would require changes to existing 911 systems due to a reliance upon the relationship between a telephone number and its geographic location.[22] While 911 systems do not specifically rely on the relationship between a

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[20] As Chairman Pai stated during the Commission's November 2017 Open Meeting: "…[u]nneeded regulations deter many companies from investing in these new networks. Having to maintain two networks—one legacy, one modern – diverts resources away from new deployments."

[21] ATIS notes that a potential barrier to NNP implementation could be the existing regulator-approved waivers for carriers to be exempted from porting requirements today. Thus, regulatory determination of these exemptions would be required.

[22] *NOI* at ¶43.

telephone number and its rate center/LATA, ATIS believes that modifications to existing processes may be necessary to support a national LRN-based NNP approach in an E911 environment.

ATIS notes that changes were made to the processes used to provision data into the SRDB and Automatic Location Identification (ALI) systems to support LNP. Specifically, processes were developed to ensure that any authorized company could send end user telephone number records to the appropriate Database Management System provider for any valid NPA-NXX that had access to 911. Further, these processes ensured that the appropriate donor and recipient service providers (and their contact information) could be identified, and that the associated records are correctly migrated between the providers' systems. With the adoption of these process changes and the provisioning of data into the appropriate SRDB and ALI systems, emergency calls from ported customers could be routed properly to the appropriate PSAPs and location information associated with the emergency calls could be returned via the ALI system to the PSAP. Similar processes may be needed to support a national LRN-based NNP approach.

ATIS also notes that, where 911 calls originate in legacy wireline or wireless networks and are routed to an NG911 network via a gateway system, the gateway system must support mappings from a specific calling number/ANI or pANI value to a location that will result in the emergency call being routed to the target PSAP associated with the calling number/ANI/pANI. In an NNP environment, it is critical that the correct location mappings are provisioned into the location server/database associated with the gateway system. Mechanisms comparable to those used to populate legacy ALI systems in an E911 environment are needed to ensure that the appropriate donor and recipient service providers (and their contact information) can be

identified and that the associated data (i.e., calling number/ANI/pANI-to-routing location mappings) are correctly provisioned into the gateway's location server/database.

B.   National LRN Consumer Experience

The Commission also asks how consumer experiences would be affected by a national LRN system and, in particular, whether there could be completion problems associated with calls to numbers ported outside of a specific rate center.[23] ATIS notes that it has consistently addressed call completion issues, and service providers have significantly reduced the risk of call completion issues in the current environment.

In order to best avoid call completion issues in a national LRN system, ATIS believes that stakeholders should participate in the development of standards in order to facilitate the ubiquitous implementation of this approach. Changes to the number portability structure could raise general call completion issues due to switch limitations and back office systems, as some systems are currently set up based on the existing geographic numbering plan. Systems based on geographic key indicators, and calls that are geographically focused may not resolve or complete due to the introduction of a change in the geographic scope. ATIS suggests that any changes be worked through industry consensus forums.

C.   Gradual NNP Implementation

The Commission notes in the *NOI* that its goal is to ensure broad, intermodal NNP, and asks if there are any benefits to a gradual implementation of NNP and if such a partial deployment is technically feasible.[24] ATIS is concerned that partial implementation of NNP could unnecessarily advantage one technology or one geographic area over another and would thereby disrupt the competitive marketplace. ATIS believes that the selection and

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[23] *NOI at ¶48.*
[24] *NOI* at ¶39.

implementation of a NNP approach should be technology-neutral in an environment in which all technologies transition toward NNP at the same time.

D.   NGGW/NNP Mandates

With regard to the NGLRN approach, the *NOI* seeks comment on the recommendation from the *ATIS Report* that carriers not be required to provide non-geographic gateway (NGGW) or NNP service.[25] ATIS continues to believe that this is the correct approach -- carriers should not be required to provide NGGW service or NNP service. To the extent that the NGLRN approach is adopted, the only requirement should be that carriers have the ability to route calls to NGLRNs.

E.   Use of pANIs in Support of 911 Calling with an NGLRN Approach

In the *NOI*, the Commission seeks comment on the use of pANIs under an NGLRN approach for non-geographic calls other than wireless and VoIP calls to 911.[26] ATIS notes that changes to existing legacy switch processing/provisioning would be required to support the use of pANIs with 911 calls that are originated by wireline customers.

In an E911 environment, upon detection of a 911 call, a wireline end office will populate the caller's telephone number/ANI in the outgoing SS7 signaling message or MF signaling sequence that it sends to an E911 Tandem/Selective Router. Unlike wireless MSCs, there is no existing process that would allow a wireline end office to derive and associate a pANI with a 911 call and populate that pANI in outgoing call setup signaling instead of (or in addition to) the caller's telephone number/ANI. As already noted, this is not an issue with the NGLRN solution since the NNP customer would be limited to either wireless or VoIP service.

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[25] *NOI* at ¶52.
[26] *NOI* at ¶55.

F.   Numbering Impacts of Commercial Agreements

The Commission also seeks input regarding what entities would act as the third-party network in a commercial agreement approach to NNP, and what abilities and obligations would they need to have for effective and competitive operation.[27] ATIS does not support the implementation of new restrictions associated with commercial agreements, noting that service providers are already voluntarily entering into these agreements based on existing industry standards without any regulatory oversight. Such business arrangements are effective, and this competitive environment should not be disrupted by the implementation of unnecessary mandates.

G.   Effects of NNP on Public Safety

In the *NOI*, the Commission seeks comment on the effects that NNP might have upon the routing of 911 calls to the appropriate PSAPs and the delivery of those calls to PSAPs with accurate callback and location information.[28] In particular, the Commission seeks clarification regarding how the proposed NNP solutions work with legacy systems that rely upon ANI to report the location of users calling 911, and whether enhanced or NG911 services are affected by the proposals.[29]

ATIS notes that the most significant issue with respect to number portability (both LNP and NNP) is the ability to deliver callback information associated with emergency calls originated by ported users to PSAPs that support traditional (i.e., Numbering Plan Digit (NPD) + 7 digit "CAMA-like") MF interfaces from their serving Selective Routers. Today, some PSAPs still use CPE that is only capable of supporting an interface to the Selective Router that delivers a

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[27] *NOI* at ¶57.
[28] *NOI at ¶63.*
[29] *NOI at ¶64.*

NPD, which is a single-digit representation of an originating station's NPA code, and a 7 digit

Calling Station Number/ANI. With NNP, the number of NPAs that may potentially be

associated with emergency callers residing in a particular PSAP's serving area will be

significantly larger than today. For PSAPs that support traditional MF interfaces, this will result

in a larger number of emergency calls for which they will not be able to accurately identify the

NPA associated with the callback number, negatively impacting the ability of such PSAPs to call

back emergency callers should it become necessary to do so.

In addition, because the caller's telephone number/ANI is also the key used by the PSAP

to obtain a wireline caller's location from the ALI database, PSAPs that support a traditional MF

interface may also have difficulty obtaining location information for 911 calls from ported

wireline users, if the NPA associated with that calling number/ANI cannot be mapped to an NPD

value that is appropriate for the target PSAP. One way of addressing this limitation in the

context of the E911 architecture might be to upgrade the interface between the Selective Router

and the PSAP to support Enhanced MF signaling, which allows for the delivery of 10 digit

callback numbers to the PSAP.[30]

Transitional architectures in which an emergency call is routed via an NG911 network to

a legacy PSAP also have mechanisms for addressing callback information that is received in a

form that cannot be directly delivered to a legacy PSAP that supports a traditional MF interface.

Such architectures include a gateway system between the Session Initial Protocol (SIP)-based

NG911 network and the legacy PSAP. That gateway system is responsible for mapping the

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[30] It is important to note that the limitations associated with traditional MF interfaces do not apply to Next Generation (NG) PSAPs. In an NG911 environment, the callback information delivered to an NG PSAP may contain information that consists of, or is easily converted to, a 10 digit NANP number, or it may not contain any digits at all. NG PSAPs are expected to be capable of accepting callback information that meets the requirements for information populated in the relevant SIP header(s). Location information is also delivered to the PSAP with the call using SIP signaling.

received callback information to a digit string (i.e., a pANI) with an appropriate NPA that can be delivered by the gateway to the legacy PSAP via traditional MF signaling. The legacy PSAP can then use this pANI to query the gateway for location and callback information associated with the emergency call.

H.   Changes to Numbering Plan, Number Pooling, and Number Portability Administration

Finally, the Commission seeks comment on how changes to its current methods of numbering plan, number pooling, and number portability administration might facilitate NNP, and how NNP might affect these existing systems.[31] ATIS notes that any changes to these methods would require a review of guidelines, processes, etc., in order to identify all impacts for service providers, consumers, and systems. Additionally, ATIS notes that changes to the current processes for assignment and porting of numbers would likely introduce significant economic and technical changes to the industry. ATIS believes that such changes are not necessary.

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[31] *NOI* at ¶68.

IV. CONCLUSION

ATIS appreciates the opportunity to provide its input to the *NPRM* and *NOI* and respectfully requests that the Commission consider the recommendations above.

Respectfully submitted,

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