In the Matter of	)	
	)	
Numbering Policies for Modern Communications	)	WC Docket No. 13-97
	)	
IP-Enabled Services	)	WC Docket No. 04-36
	)	
Telephone Number Requirements for IP-Enabled Services Providers	))	WC Docket No. 07-243
	)	
Telephone Number Portability	)	CC Docket No. 95-116
	)	
Developing a Unified Intercarrier Compensation Regime	))	CC Docket No. 01-92
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
Numbering Resource Optimization	)	CC Docket No. 99-200
	)	
Petition of Vonage Holdings Corp. for Limited Waiver of Section 52.15(g)(2)(i) of the Commission's Rules Regarding Access to Numbering Resources	)))))	
	)	

REPLY COMMENTS OF THE ALLIANCE FOR TELECOMMUNICATIONS INDUSTRY SOLUTIONS

The Alliance for Telecommunications Industry Solutions (ATIS) submits these reply

comments on behalf of its SMS/800 Number Administration Committee (SNAC)[1] in response to

the *Notice of Inquiry (NOI)* released April 18, 2013, in the above-referenced dockets.[2] In the

NOI, the Federal Communications Commission (Commission) seeks input on a range of issues

regarding its long-term approach to numbering resources, including the ongoing association of

telephone numbers with geography. ATIS notes that toll-free subscribers often depend on

location-based routing to meet important business and consumer needs. While telephone

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[1] These comments were also shared with the ATIS Industry Numbering Committee (INC).

[2] *Notice of Proposed Rulemaking, Order and Notice of Inquiry*, FCC 13-51 (released April 18, 2013).

numbers eventually may not be tied to particular geographic areas, the need for location-based routing will continue. Therefore, prior to any changes to the geographic constraints in the Commission's number assignment policies, ATIS believes that there should be an industry-led effort to ensure that an alternative mechanism(s) exist to permit location-based routing for toll-free subscribers.

I.   Background

ATIS is a global standards development and technical planning organization that leads, develops and promotes worldwide technical and operations standards for information, entertainment, and communications technologies. ATIS' diverse membership includes key stakeholders from the ICT industry – wireless and wireline service providers, equipment manufacturers, broadband providers, software developers, consumer electronics companies, public safety agencies, digital rights management companies, and internet service providers. Technical, operational, and business priorities are examined by ATIS through its Technology and Operations (TOPS) Council, a group established by the ATIS Board of Directors to identify and address the ICT ecosystem's needs through focused, expedited efforts. Additionally, nearly 600 industry subject matter experts work collaboratively in ATIS' open industry committees and incubator solutions programs.

One of ATIS' 17 industry committees – the ATIS SMS/800 Number Administration Committee (SNAC) – identifies, develops and implements the resolution of issues impacting existing toll-free products and services and evolving technologies affecting future developments in the toll-free industry. SNAC is comprised of volunteer members representing providers and users of the 800 Service Management System (SMS/800), who provide recommendations to the owner/manager of the SMS/800 regarding design and management issues that have a direct effect on the system users. SNAC also maintains the Industry Guidelines for Toll Free Number

Administration (ATIS-041700-001) and is a leader in developing standards and procedures for the interaction between RespOrgs, customers, and service providers.

II.   The Current Role of Geographic Numbering in Routing Toll-Free Calls

In the *NOI*, the Commission notes that '[t]he increased use of mobile services, the evolution from TDM to IP technologies, and the transition to bill-and-keep compensation each raises questions regarding the on-going association of numbers with geography."[3] The Commission seeks input on the benefits and limitations associated with the existing geographic number assignment policy. While ATIS does not disagree with those commenters that suggest that telephone numbers eventually may not be tied to particular geographic areas,[4] ATIS calls the Commission's attention to the role that geographic numbering plays in the routing of toll-free calls and urges the Commission not to prematurely eliminate geography from numbers.

Toll-free numbers are unique in that they are truly non-geographic throughout the areas covered within the NANP and are reserved and assigned on an individual telephone number basis from a single (SMS/800) database. In addition, there are unique characteristics associated with the toll-free subscribers. Subscribers control their toll-free number, and are able to select one or more terminating carriers to deliver the calls dialed to their number. Even more important, they are able to route calls to one or multiple locations based upon a variety of routing criteria. Customized routing, including area code or exchange, time of day, percentage allocation, ring no answer, and emergency or disaster routing, serves consumers by ensuring that their calls are answered in a way that best serves their needs. This might entail connecting with the closest pizza store or taxi stand, having calls handled by a call center best-staffed for responding without keeping callers on hold, or rerouting calls to report downed power lines or

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[3] *NOI* at ¶119.

[4] *See*, *e.g.,* Comments of Comcast Corporation at p. 13.

washed-out roads.

Subscribers benefit from these routing features in that they provide efficient and effective services to their customers, streamline business operations, and provide quick and effective response in the case of emergencies, including natural disasters and acts of sabotage. Many subscribers also use toll-free numbers to create branding and advertising opportunities through the use of highly recognizable and memorable "vanity numbers."

One of the key roles of geographic numbering relates to the routing of toll-free calls. Call routing is selected by the toll-free subscriber and executed by their RespOrg and telecommunications carrier(s). Upon origination, the originating carrier queries an industry toll-free database Service Control Point for routing instructions that have been populated from SMS/800, and then hands the call off to the carrier designated by the subscriber. The subscriber can deploy various options in the SMS/800 database to determine which carrier the call is directed to for termination, and the carrier designation can be changed on a real-time basis to control costs, or in response to a service outage.

Many toll-free service providers rely upon the originating number as an indicator of the geographic location of the caller.[5] They achieve least-cost network and multi-carrier routing, time-of-day routing, and other special routing features by virtue of having complete and accurate knowledge of the geographic origination. Toll-free subscribers can also route their calls to one of many stores or service locations based upon the location and time zone of the caller. Moreover, shared-use toll-free businesses route calls to licensees who have subscribed to receive all calls originated from specific, defined territories.

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[5] Even with wireless roaming and nomadic VoIP, originating numbers are still most often indicative of callers' current or home locations.

The geographic location of originating calls can also help limit unwanted misdials and calls from consumers residing outside the subscriber's service area by allowing the toll-free subscriber to block calls originating from certain area codes. Such blocking also avoids the confusion and frustration that consumers experience upon reaching a "wrong number."

Emergency service (non-911) providers such as poison control centers and suicide hotlines often make use of toll-free numbers that are dialed by individuals who need critical, often immediate, assistance. These calls are often routed according to the emergency provider location closest to the caller, who best can respond to the situation at hand.

III.   The Continued Need for Accurate Location-Based Routing

As noted above, ATIS recognizes that telephone numbers may not be based on geography in an all-IP environment. However, even after the transition from TDM networks to next generation networks, there will remain a need for location-based routing for toll-free calls. When a toll-free call is dialed, the expedient and accurate routing of the call may still require that the caller's location be identified. This is of particular importance during emergency situations when diverting traffic to alternate carrier(s) on a real-time basis can be a matter of life and death. ATIS therefore supports an industry-led effort to develop alternative methods to provide connecting carriers with location information for the purpose of routing toll-free calls.[6]

The need for alternative location-based routing methods will become even more critical as the transition to IP and other next generation networks continues to decouple telephone numbers from geography. ATIS notes that, as the various industry databases have evolved with the rapid expansion of mobile phones, VoIP, and a plethora of nomadic communication services and devices, it has become increasingly difficult to reliably and accurately identify a call's

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[6] ATIS notes that the Communications Act and the Commission's Customer Proprietary Network Information (CPNI) rules would allow for the sharing of such information for the purposes of providing telecommunications services between carrier(s). (*See* 47 U.S.C. Section 222 (a)-(c)(1)); 47 C.F.R. §64.2005.

geographic point of origin. Accordingly, there is a pressing and vital need for the industry to

develop mechanisms to support location-based routing for toll-free calls in the context of the

PSTN transition to IP, including nearer term options for improving the accuracy of location-

based routing for toll-free calls. [7] ATIS believes that such mechanisms must be in place before

any changes are made to the geographic constraints in the Commission's numbering assignment
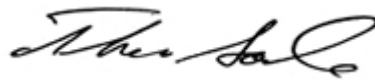
practices.

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[7] While there are methods to identify specific caller locations for specific services (such as E-9-1-1), this
information is not generally available to toll-free subscribers.

IV.   Conclusion

As described above, geographic numbering plays a vital role in the routing of toll-free calls. While the tie between telephone numbers and geography has already begun to erode, numbers cannot be fully decoupled from geography until the transition from TDM to all-IP networks is completed. Even in a post-IP environment, there are many toll-free services and applications for which accurate, timely and ubiquitous originating location is critical. Thus, prior to any changes to the geographic constraints in the Commission's number assignment policies, ATIS believes that there is a need for industry-led work to ensure that location-based routing can continue. While such work would best be done in the context of the PSTN transition to IP-based networks, ATIS believes that the industry should continue to examine other measures to address current issues arising from inaccurate originating data provided to subscribers, improving the accuracy of location-based routing of toll-free calls.

Respectfully submitted,

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