

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

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
Number 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; and	
Petition of TeleCommunications Systems, Inc. and HBF Group, Inc. for Waiver of Part 52 of the Commission's Rules	

**COMMENTS OF AT&T**

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## **I. INTRODUCTION AND SUMMARY**

Since at least 2005, interconnected VoIP providers have been seeking the right to access numbering resources directly from the national numbering administrators. They want this right in order to provide telephone numbers to their customers in the most efficient and cost-effective way possible. In some cases, that might mean retaining their competitive local exchange carrier (CLEC) numbering partner; in other cases, that might involve new, creative marketplace solutions to interconnect with the public switched telephone network (PSTN). Either way, the Commission has deemed it time—some would assert, beyond time—to test the waters of direct access to numbering resources for these providers.

The first step was for the Commission to order and approve limited trials for direct access to numbers. Those trials are just underway and should prove to be a major contribution to the Commission's appreciation of its role in making such direct access generally available to other interconnected VoIP providers. The second step involves the questions posed by the Commission in its Notice of Proposed Rulemaking (*Notice*) and Notice of Inquiry (*NOI*). Certainly the aim of these inquiries is to assist the Commission in devising rules or other processes to address the specific issues surrounding direct access to numbering resources by non-common carriers (*i.e.*, those not “authorized to provide service in the area for which the numbering resources are being requested”). But beyond that, the Commission is in fact beginning the process of assisting the industry's migration from a TDM-based communications world to an all-IP world. This larger context of migrating to all-IP should inform the Commission in answering the questions it has raised in its *Notice* and *NOI*.

Because there won't be a “flash cut” from TDM to IP, the Commission recognizes that the migration will involve TDM and IP systems running on parallel tracks, with IP-based providers having to interconnect with the PSTN in order to provide the connectivity that consumers expect and demand. Until the sunset of TDM—*i.e.*, that date by which providers will no longer be obligated to interconnect via TDM—the Commission must manage this migration and facilitate the process by which *all providers* can transition at various rates to all-IP systems.

As part of this management, the Commission must guard against dragging inappropriate regulations and obligations from the TDM world into the IP world, creating barriers to entry into markets or discouraging creative marketplace solutions to interconnection, and branding the new IP-enabled providers second-class citizens of the communications community. Making numbering resources directly available to interconnected VoIP providers on an equitable basis is a start. But the Commission will also need to facilitate the repurposing of existing databases to support the migration process and spur market-driven interconnection agreements. And the Commission will need to sponsor additional trials, including AT&T's proposed comprehensive geographic trials. This migration process will present challenges but we are confident that, with industry and regulators working cooperatively, and not at cross purposes, the ultimate goal of a new and dynamic all-IP ecosystem is within our grasp.

### **NOTICE**

#### ***Direct Access to Numbers***

Documentation. Allowing interconnected VoIP providers direct access to numbering resources requires a process that replicates to some degree the system that it supplants. The Commission will need to create and oversee a documentation and authorization process for interconnected VoIP providers that addresses many of the concerns already covered by today's Commission rule 52.15(g)(2), which restricts such access to "authorized providers." This should be a one-stop process that doesn't create 51 or more regulatory barriers to entry. Equally, this process should be open to all providers who see the need to take advantage of it as a way of promoting both competition and the migration to IP-based offerings. Central to any process is that it make direct access to numbering resources contingent upon providing a wholesale or retail commercial service with universal connectivity and that it has the IP equivalent of the facilities readiness requirement. Any new IP facilities readiness requirement should be flexible and encourage creative marketplace solutions to provisioning services and interconnecting with other providers.

Efficient Utilization. As part of the *Notice*, the Commission raises several specific numbering issues, such as definitions used as part of the Commission's numbering resource optimization plan and segregating interconnected VoIP providers' numbering resources to specific rate centers. On the one hand, we believe the Commission should consider augmenting the definition of "intermediate numbers" to clarify how providers should report their use of numbers in the bi-annual NRUF report; on the other hand, we reject all proposals that put interconnected VoIP providers in second-class status with respect to their use of numbering resources (e.g., restricting interconnected VoIP providers to certain rate centers or giving state commissions the authority to declare certain rate centers unavailable to them, classifying all VoIP calls as "local," and prematurely imposing the use of all N11 abbreviated dialing patterns on VoIP providers). If there are valid concerns in these areas, they should be addressed without imposing discriminatory burdens on one class of provider.

Facilities Readiness. As noted above, the Commission needs to provide a reasonable and flexible substitute for the existing *facilities readiness* requirement. By means of the Commission's documentation and authorization process for direct number access, the Commission should require providers to describe how they will provide universal connectivity and provide proof that they have in fact followed through on their plan of making it possible. This mechanism can provide a suitable IP alternative to the existing facilities readiness requirement. One way a provider might do this is to employ the method imposed on SBCIS in the *SBCIS Waiver Order*, but it needn't be the only way. The Commission should be open to creative marketplace solutions that meet the needs of the provider and are consistent with the Commission's policy goals and directives.

Timing of Numbering Requests and Vonage Commitments. In keeping with our contention that interconnected VoIP providers should not be relegated to second class citizenship, we see no reason to require that such providers agree to special commitments, like those proposed by Vonage, as a condition precedent to getting direct access. For the same reason, the Commission should not impose on them, and should remove from SBCIS (now

AT&TIS), the requirement to provide 30 days prior notice of numbering requests, a requirement which serves no valid regulatory purpose and only acts to delay access to numbering resources and unnecessary burdens one set of providers. While these special commitments are unnecessary, compliance generally with the Commission's numbering rules is not. We support requiring all providers with direct access to numbering resources to submit to the Commission's enforcement and forfeiture penalty authority.

### ***Additional Issues Raised***

Databases. In this and other contexts, we have argued in favor of adapting existing databases to facilitate interconnection, routing, and number resource allocation. For example the Commission should explore using the NPAC database as a way to allocate numbering resources on a more efficient basis. Using "just-in-time" principles, the NPAC database could be employed to allocate numbers on an individual telephone number or as-needed basis. Use of adapted databases could address concerns about number exhaust and rate center congestion raised by some—all without stigmatizing interconnected VoIP services or creating special numbering utilization rules for providers of those services.

Intercarrier Compensation. Claims raised by some that allowing direct access to numbering resources by interconnected VoIP providers will require changes to the intercarrier compensation scheme should be rejected out of hand. These claims are raised by those who most directly benefit from the status quo—the CLEC numbering partners of interconnected VoIP providers. Because the obligation to pay intercarrier compensation has never stemmed from numbers, allowing direct access to them by interconnected VoIP providers will not change existing intercarrier compensation rights and obligations. To the extent that an interconnected VoIP provider hands off traffic directly to another carrier pursuant to tariff or commercial agreement, that VoIP provider will be responsible for the access or other services it uses; to the extent an interconnected VoIP provider, with direct access to numbering resources, hands off traffic to an intermediate carrier, the intermediate carrier will have that obligation. The

intercarrier compensation scheme will continue to function as presently designed after authorizing direct access by interconnected VoIP providers.

VoIP Interconnection. As for interconnection, direct access to numbering resources will be a stimulus to the ongoing transition to and broadening of commercial interconnection already in full swing. While additional work within industry is needed to fully scale IP interconnection, that work will be enhanced by allowing direct access to numbering resources, not deterred by it. In addition to any efforts by industry in this regard, there are critical action items for the Commission as well. For example, the Commission can promote IP interconnection by removing regulatory barriers to IP-to-IP interconnection, by facilitating the adaptation of existing databases (like the NPAC database) to make them accessible by all providers to enable different VoIP providers to find one another's customers as easily as TDM providers do today, and by setting a date by which carriers will no longer have an obligation to interconnect with TDM. Just as importantly, if not more, however, the Commission can move forward with AT&T's proposal to run geographic trials of the transition from legacy, TDM-based networks to next-generation, IP-based alternatives. The proposed geographic trials will provide hard, real-life facts by which to evaluate the ramifications of the transition and allow all involved—the Commission, industry, affected communities, *etc.*—to prevent disruptions and potential consumer harms.

LNP Obligations. Some have raised concerns over the possible impact direct access will have on number porting. In our view, there will be none. The Commission has clearly spoken on this topic in the *VoIP LNP Order*. That said, however, we would have objection to the Commission's further clarification of the relative rights and obligations of interconnected VoIP providers under the local number portability rules.

Numbering Cost Allocation. We support a reexamination of the cost allocation scheme underlying the administration of the North American Numbering Plan. At present the scheme is out of balance and needs adjustment in order to truly be borne by all “on a competitively neutral basis.”

## **NOI**

Historically, telephone numbers were assigned to particular geographic areas and had more geographic significance than they do today. The geographic significance of telephone numbers has been largely undermined by the growth in all-distance and jurisdictionally agnostic wireless and VoIP services. Eventually this historical connection may disappear completely. But, for now, during the migration from TDM-based system to IP-based ones, this connection must remain to properly route and rate traffic. Fears that this disassociation from geography will accelerate number resource exhaust or facilitate fraud and spoofing are overblown, and the Commission, while working to address such concerns, shouldn't be deterred from facilitating the migration to an all-IP world where geography and telephone numbers are completely decoupled.

AT&T Services, Inc., on behalf of its affiliated companies, (AT&T) files these comments in response to the Commission’s Notice of Proposed Rulemaking and Notice of Inquiry released on April 18, 2013.<sup>1</sup>

## **II. COMMENTS ON NOTICE OF PROPOSED RULEMAKING**

### **A. Direct Access to Numbers by Interconnected VoIP Providers**

This *Notice* springs from the request by certain interconnected VoIP providers to have direct access to North American Numbering Plan (NANP) telephone numbers (TNs) just as providers that are “authorized to provide service in the area for which the numbering resources are being requested” do today.<sup>2</sup> The Commission is wise, however, to examine the issues raised in the *Notice* in a larger context—specifically, the migration of providers from traditional TDM-based telephony to IP-enabled communications services, which include but are not limited to interconnected VoIP services. That transition is inevitable—indeed, it is already well underway—and requires that the Commission adapt its rules governing access to telephone numbers accordingly. Done correctly, the Commission—working with state commissions, industry and industry standards-setting bodies, and others—can repurpose existing databases (primarily the Number Portability Administration Center database) to create a process that will allow today’s interconnected VoIP providers and future IP-enabled providers efficient, direct access to numbering resources and thereby facilitating the migration of TDM-based providers to an all-IP world. The Commission can and should accomplish this without making interconnected VoIP providers second class citizens in the communications marketplace (*e.g.*,

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<sup>1</sup> *Numbering Policies for Modern Communications; etc., Notice of Proposed Rulemaking, Order and Notice of Inquiry*, WC Docket Nos. 13-97, 04-36, 07-243, and 10-90; CC Docket Nos. 95-116, 01-92, and 99-200; FCC 13-51 (rel. April 18, 2013) (*Notice/NOI*).

<sup>2</sup> 47 C.F.R. § 52.15(g)(2). As used in these comments, the term “authorized providers”—typically those that have obtained a license or a certificate of public convenience and necessity (CPCN) from a state—will refer to providers who are “authorized to provide service in the area for which the numbering resources are being requested” within the meaning of this rule.

burdening them with obligations and limitations not imposed generally on today's authorized providers), without transplanting unnecessary legacy telecommunications service burdens and concepts into the new all-IP world, and without undoing the gains the Commission achieved in its number resource optimization (NRO) regime. What's more, in accomplishing all this, the Commission can, in our estimation, appropriately rely on the expertise and assistance of state commissions and provide them with information on interconnected VoIP providers operating in their jurisdictions without creating barriers to entry or 51 jurisdictional hurdles to competition.

In this larger context, the Commission should afford all providers the opportunity to benefit from any reassessment of the Commission's numbering rules and restructuring of numbering databases. Said another way, when seen in light of the general migration from legacy TDM-based networks to IP-based networks (as opposed to just an incremental enhancement of the rights of a few existing IP-enabled providers), *all providers* should be able to adopt any new numbering resource access mechanism, even if they have obtained or could obtain a certificate of public necessity and convenience (CPCN) from a regulatory state agency.

***1. Documentation Required to Obtain Numbers.***

Today, by Commission rule, direct access to numbering resources is limited to providers "authorized to provide service in the area for which the numbering resources are being requested."<sup>3</sup> Few, if any, interconnected VoIP providers are "authorized" within the meaning of the Commission's rule. Because they thus lack direct access to numbering resources from the North American Numbering Plan Administrator (NANPA) or the Number Pooling Administrator (PA), they enter into commercial arrangements with other service providers (*i.e.*, common carriers, normally competitive local exchange carriers or CLECs)—often referred to as "numbering partners"—for TNs needed to provide service, as well as for the ability to port in and port out TNs when customers change providers.

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<sup>3</sup> 47 C.F.R. § 52.15(g)

The Commission now seeks comment on rule changes that would obviate the need for these arrangements. Specifically, the Commission seeks comments on “what, if any, documentation interconnected VoIP providers . . . [should] be required to provide to the number administrator to receive numbers [*i.e.*, for direct access to TNs] and, just as importantly, whether there should be an “alternative means for interconnected VoIP providers to demonstrate, absent state certification, that they are providing services in the area for which the numbers are being requested.”<sup>4</sup>

AT&T believes that the Commission should provide an alternative process whereby IP-enabled providers can demonstrate that they need, can deploy, and will properly use numbering resources. Logically the documentation and authorization process might resemble the process used in some state jurisdictions now for providers seeking a CPCN, which among other things asks for basic information on the applicant (including, but not limited to, “contact information for personnel qualified to address issues relating to regulatory requirements, compliance, 911, and law enforcement”).<sup>5</sup> And because this documentation will be filed at the federal level, the applicant may need to specify the states in which it will offer services.<sup>6</sup> Other than basic information on the applicant, however, there are elements of the documentation process that are *critical* to justifying direct access to numbering resources.

*First*, the applicant should be required to certify or declare (within the meaning of Commission rule 1.16)<sup>7</sup> that the applicant will use the numbering resources in support of a wholesale or retail commercial service whereby all persons with NANP TNs can reach the applicant’s customers and conversely all its customers can reach all other persons with NANP

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<sup>4</sup> *Notice* para. 21.

<sup>5</sup> *Id.* para. 33.

<sup>6</sup> The applicant may also need a mechanism for updating its documentation when, for example, there is a change in contact personnel or when the applicant expands services into new and different jurisdictions.

<sup>7</sup> 47 C.F.R. § 1.16

TNs. In short, direct access to numbering resources should be contingent upon providing a commercial communications service that allows for this *universal connectivity*.

*Second*, the applicant should provide a brief, but informative, *description* of how the applicant intends to meet its obligation of universal connectivity. This precondition for direct access to TNs is the IP equivalent of the *facilities readiness* requirement of Commission rule 52.15(g)(2)(ii).<sup>8</sup>

*Third*, the applicant must agree to submit to the authority of the Commission, and to any state commissions to which the Commission has properly delegated authority, with respect to any obligations assumed in the documentation process and to any Commission rules governing the use of TNs, including enforcement actions or forfeiture authority. There shouldn't be any questions concerning the Commission's authority over the applicant in this regard, and the applicant should understand that, with respect to these matters, the applicant is subject to the same Commission enforcement tools (*e.g.*, forfeiture penalties) that authorized providers are subject to today.

*Fourth*, the applicant must agree to maintain necessary entries in relevant industry databases, such as the LERG and NPAC. These databases will be critical to routing and rating calls, as well as intercarrier compensation.

Preferably the documentation process would be developed and run by the Commission, not each individual state, because having a centralized and standardized process would make it easier and less expensive for providers to document their entitlement to numbering resources.<sup>9</sup> The reduced regulatory burden, would, in turn, facilitate the availability of numbers to interconnected VoIP providers, thereby promoting competition in the marketplace to the benefit

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<sup>8</sup> See 47 C.F.R. 52.15(g)(2)(ii). See our discussion of facilities readiness below.

<sup>9</sup> The Commission may elect to delegate administration of this process to a third party, like the NANPA.

of consumers.<sup>10</sup> Moreover, the Communications Act, as amended, (Act) bestows on the Commission plenary authority over the NANP, and the Commission should be responsible for overseeing all aspects of the process that are central to the distribution of this national resource.<sup>11</sup>

Finally, there is no reason for the Commission to take a restrictive view of when and by whom this process may be invoked. All providers who meet the Commission's standards for direct access to numbering resources should be entitled to make use of it. For example, an authorized provider in Alabama may wish to expand into neighboring Georgia by offering an interconnected VoIP service there. Although that provider might be capable of being authorized in Georgia, it should have the option of using the Commission's certification process instead. This flexibility would both increase competition by eliminating barriers to offering interconnected VoIP service and facilitate the transition to IP networks and services.

## ***2. Numbering Administration Requirements for Interconnected VoIP Providers.***

***Efficient Utilization.*** Expanding the pool of providers with direct access to numbering resources raises questions as to the potential impact on NANP exhaust. The Commission has made great strides in fostering more efficient numbering resource utilization by instituting such practices as thousands-block number pooling and the Numbering Resource Utilization and Forecast (NRUF) report with its tie-in to thresholds for entitlement to additional numbering resources. These and other, similar tools make it possible for the Commission to expand the pool of providers with direct access to numbering resources without opening the door to inefficient number utilization. To be sure, the Commission may need to make some adjustments in its rules or in the use of existing databases to protect the progress it has made on this front. But that is no reason to cling to numbering rules that are grounded on the technologies of the past and deny interconnected VoIP providers direct access to numbering resources.

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<sup>10</sup> See *Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission, Memorandum Opinion and Order*, 19 FCC Rcd 22404 para. 41 (2004) (*Vonage Order*).

<sup>11</sup> 47 U.S.C. § 251(e)(1).

In the *Notice*, the Commission acknowledges confusion regarding its number reporting requirements that has led to inconsistencies in the way some carriers report number utilization in their bi-annual NRUF report. Because those inconsistencies, the Commission asks for comments on “how [it] could revise [its] definition of ‘intermediate numbers’ or ‘assigned numbers’ to ensure consistency among all reporting providers.”<sup>12</sup>

This is not a new issue. As early as 2002, the industry had already recognized that carriers seeking to apply the Commission’s number reporting directives were not all reporting “intermediate numbers” and “assigned numbers” the same way.<sup>13</sup> To address this confusion, the participants in the NANC IMG have recommended enhancing the definition of “intermediate numbers” (but not “assigned numbers”) in Commission rule 52.15(f)(1) and proposed two alternatives for the use of intermediate numbers in the Months-to-Exhaust worksheet used to qualify for additional numbering resources.<sup>14</sup> AT&T supports adopting the proposed NANC IMG clarification to the definition of intermediate numbers, which reads:

Intermediate numbers are included in numbers assigned by the national administrator (NANPA or PA) to a carrier (Party A) that in turn establishes a secondary inventory of numbers dedicated for use by another entity (Party B) responsible for the assignment of the numbers to end-user customers. Therefore, the numbers are not available to Party A for assignment to its end-user customers.

And we support adoption of “Alternative A” to the MTE worksheet set out in the 2002 NANC IMG, which would make clear that intermediate numbers should be treated the same as assigned numbers by the service provider receiving the numbering resource directly from the national administrator. Like the participants in the NANC IMG, we see no reason to modify the definition of “assigned numbers,” because even TNs used by interconnected VoIP providers will be working in the PSTN until the Commission sets the date for the sunset of that system.

In addition to the NRUF report, the Commission relies on other NRO tools, like number pooling. At present, number pooling is not ubiquitous (*e.g.*, some rural rate centers are non-

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<sup>12</sup> *Notice* para. 23.

<sup>13</sup> NANC IMG: Review of Intermediate Numbers (Nov. 19, 2002) (NANC IMG).

<sup>14</sup> *Id.* at 5-6.

pooling rate centers). Some state commissions have raised concerns that giving interconnected VoIP providers direct access to TNs will accelerate TN exhaust in certain NPAs, essentially those without number pooling. To address this concern, one proposed solution would be to create “a system in which interconnected VoIP providers may obtain numbers only from rate centers *subject to number pooling*.”<sup>15</sup> By way of counter proposal, the Commission suggests that interconnected VoIP providers be allowed to obtain telephone numbers from any rate center “unless a state commission finds that allowing direct access in non-pooling rate centers will contribute substantially to number exhaust.”<sup>16</sup>

It is by no means clear that the Commission needs to take additional steps to prevent number exhaust, given existing rules and reporting requirements, as well as the tools available to the states, such as NPA overlays and universal ten-digit dialing. But to the extent additional measures are deemed necessary, there are far better and more equitable ways of preventing number exhaust than by limiting the ability of interconnected VoIP providers to obtain numbering resources in certain rate centers. For example, the Commission could expand and repurpose existing numbering databases, specifically the NPAC (Number Portability Administration Center) database, and make access to TNs more efficient than even one-thousands block number pooling, specifically by instituting individual telephone number (ITN) pooling.<sup>17</sup> Such a solution would have the virtue of applying equally to *all providers*.

In the same vein, we oppose special codes for different services or restricting providers to pre-approved rate centers, effectively “ghettoizing” some services. We thus oppose the California PUC proposal that the Commission grant states the right to specify which rate centers are available for VoIP number assignment.<sup>18</sup> According to the California PUC, “this proposal

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<sup>15</sup> *Notice* para. 25 (emphasis supplied).

<sup>16</sup> *Id.* para. 26.

<sup>17</sup> See our discussion of routing and databases below in which we discuss one possible retooling of the NPAC for this purpose.

<sup>18</sup> *Notice* para. 27.

would allow state commissions to steer LRN requests from interconnected VoIP providers toward rate centers in more populated areas, where the numbers are more likely to be used.”<sup>19</sup> A better approach is to retool numbering databases to provide more efficient distribution of numbering resources, avoiding both numbering exhaust and discriminatory treatment of providers. Here, again, the Commission should reject any proposal that effectively makes interconnected VoIP providers second class citizens in the voice communications ecosystem, especially as there are remedies available to address the concerns arising from some quarters about number exhaust.

Generally, AT&T also recommends against importing legacy TDM concepts and systems into the new all IP world—case in point, importing geographic limitations and the use of rate centers into the IP-world.<sup>20</sup> We acknowledge that there will be a period of time when IP systems will be tethered after a fashion to TDM mechanisms, essentially during the migration period while these systems are running on parallel tracks. This migration period, where TDM and IP run on parallel tracks, might impose temporary restrictions on the way numbering resources are handled (*e.g.*, porting outside the rate center). But once this migration period comes to an end with the sunset of the PSTN, the IP system should be free of even these few remaining legacy constraints. For this reason, among others, we oppose the California PUC’s proposal to let states specify which rate centers are available for VoIP number assignment. Until the need to interface at a TDM level with the PSTN is eliminated, interconnected VoIP providers will still need to get TNs from areas where they have interconnection and not where state regulators might think best.

And we oppose the California PUC proposal, made “[i]n conjunction” with its segregated rate-center proposal, that all interconnected VoIP calls be deemed “local”—a concept increasingly foreign to modern users of telecommunications systems.<sup>21</sup> This proposal is just one

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<sup>19</sup> *Id.*

<sup>20</sup> The lack of geographic restrictions in interconnected VoIP providers is one reason cited by the California PUC for why it contends that its rate-center proposal wouldn’t harm them. *See Notice* para. 27.

<sup>21</sup> *Notice* para. 28.

more example of the kind of thinking that makes second class citizens of interconnected VoIP providers. Under the California PUC proposal VoIP TNs “would work as if part of a nationwide area code overlay,” making the choice of rate center by interconnected VoIP providers “irrelevant” and allowing TNs currently stranded in rural rate centers available for use.<sup>22</sup> This proposal would presumably also act as a disincentive to seek numbering resources in rural rate centers in the first place. This recommendation is an unnecessary burden on a specific classification of provider (*i.e.*, interconnected VoIP providers), which can be avoided if the Commission acts to update numbering databases to allow for ITN pooling. The Commission should create an IP numbering distribution system that can run in tandem with the existing system by retooling the existing databases, such as the NPAC database, and that would distribute TNs more efficiently, permitting today’s authorized providers to migrate from TDM-based networks and systems to the new IP-based ones. The Commission should not create a segregated NPA for interconnected VoIP providers’ TNs.

This California proposal is, in all events, unworkable. For example, how would a carrier in Nebraska treat a TN tied to service offered in California as “local”? It would be highly unlikely that the Nebraska carriers would have local interconnection with the California provider, thus the call could only be routed through an interexchange carrier (IXC). If so, that raises the question of who would pay the IXC for carrying the call, which would not transport the call for free. More workable and available solutions are already at hand if the Commission decides to build on existing numbering databases, in place of adopting unnecessarily restrictive and burdensome alternatives.

The Commission should avoid inadvertently discouraging authorized providers from migrating to IP and from using new IP-based systems by adopting regulations that treat IP-enabled providers less favorably than traditional carriers. But the Commission doesn’t have to choose between NRO, on the one hand, and discriminating against interconnected VoIP

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<sup>22</sup> *Id.*

providers, on the other, when the tools are at hand to achieve both numbering utilization efficiency and non-discriminatory treatment of all competing providers.

***Facilities Readiness.*** As discussed above, authorized providers seeking direct access to TNs today from the NANPA or the PA must show that “[t]he applicant is or will be capable of providing service within sixty (60) days of the numbering resources activation date.”<sup>23</sup> This is known as the *facilities readiness requirement*. In the *SBCIS Waiver Order*, the Commission directed that, in lieu of meeting the showing of Commission rule 52.15(g)(ii), SBCIS “could submit evidence that it has ordered an interconnection service pursuant to a tariff that is generally available to other providers of IP-enabled voice services.”<sup>24</sup> The Commission asks commenters to discuss whether an equivalent showing of facilities readiness imposed on SBCIS (now AT&TIS) in the *SBCIS Waiver Order* is still a “good approach” to addressing facilities readiness.<sup>25</sup>

The Commission should relax the facilities readiness requirement and provide more flexibility in this area as the industry moves from the old TDM-based world to the new IP-based world. One way to do that would be to adopt the IP alternative to the facilities readiness requirement we discussed above in our description of a documentation process for use in allowing interconnected VoIP providers direct access to TNs. Recapping, we advocated that an applicant *certify or declare* (see 47 C.F.R. § 1.16) that the provider will use the numbering resources in support of its wholesale or retail commercial service whereby all persons with TNs can reach the applicant’s customers and, conversely, all its customers can reach all other persons with TNs (*i.e.*, universal connectivity) and we advocated that the applicant provide a *brief description* of how the provider intends to meet its obligation to provide *universal connectivity*.<sup>26</sup>

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<sup>23</sup> 47 C.F.R. § 52.15(g)(2)(ii).

<sup>24</sup> Notice para. 29. And see *Administration of the North American Numbering Plan, Order*, 20 FCC Rcd 2957 para. 10 (2005) (*SBCIS Waiver Order*).

<sup>25</sup> Notice para. 29.

<sup>26</sup> The requirement in the *SBCIS Waiver Order*—submitting evidence that the provider has ordered an interconnection service pursuant to a tariff that is generally available to other

The description of how the provider will put universal connectivity into place—coupled with post-application proof that the provider actually followed through with its described method—is essentially a facilities readiness requirement. But the Commission shouldn’t pre-determine how the provider meets this obligation of universal connectivity. By doing this, the Commission frees providers to fashion inventive marketplace solutions to the question of interconnection.

***Timing of Numbering Requests.*** In the same *SBCIS Waiver Order*, the Commission imposed an obligation to “submit any requests for numbering resources to the Commission and the relevant state commission at least 30 days prior to requesting resources from the NANPA or the PA.”<sup>27</sup> In the *Notice*, the Commission asks whether the Commission should impose this same requirement on all interconnected VoIP providers granted direct access to numbering resources.<sup>28</sup> The Commission should *not* impose this requirement on any interconnected VoIP providers as a prerequisite for obtaining direct access to numbering resources. AT&T is unaware of any instance in which this advance notice has led to Commission action.<sup>29</sup> At the same time, it delays access to TNs. Accordingly, this requirement imposes burdens without any countervailing benefit and should be eliminated entirely, including as it applies to SBCIS (now

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providers of IP-enabled voice services—could remain one way of providing universal connectivity, but it needn’t be the only way.

<sup>27</sup> *SBCIS Waiver Order* para. 9.

<sup>28</sup> *Notice* para. 31.

<sup>29</sup> Along the same lines, the corresponding 30-day prior notice to state commissions is also fruitless as the Commission has strictly limited the role of state commissions in the initial request for numbering resources. The Commission has delegated to the NANPA and the PA to make the initial decision with respect to a provider’s entitlement to numbering resources. See *Numbering Resource Optimization; Petition for Declaratory Ruling and Request for Expedited Action on the July 15, 1997 Order of the Pennsylvania Public Utility Commission Regarding Area Codes 412, 60, 215, and 717, Second Report and Order, Order on Reconsideration in CC Docket No. 96-98 and CC Docket No. 99-200, and Second Further Notice of Proposed Rulemaking in CC Docket No. 99-200*, 16 FCC Rcd 306 para. 123 (2000) (“Finally, we clarify that our grant to state commissions of access to numbering resource application materials is not intended to delay the processing of carriers’ applications for numbering resources. Notwithstanding the state commissions’ role in determining the validity of data submitted pursuant to our mandatory reporting requirements, our intent is not to give state commissions a veto over approval of applications, nor is it to introduce an additional layer of review for applications. The NANPA and the Pooling Administrator are responsible for determining whether application materials are sufficient in the first instance.”).

AT&TIS). The Commission's enforcement powers over interconnected VoIP providers gaining direct access to TNs should provide sufficient guarantees of compliance with applicable requirements.

***Vonage Commitments.*** Along this same line, the Commission notes that petitioner Vonage Holdings Corporation (Vonage) has offered to make certain commitments in order to secure the right to access TNs directly from the NANPA and PA and asks whether other interconnected VoIP providers should be required to make similar commitments.<sup>30</sup> AT&T opposes such requirements as inconsistent with the fundamental goal of making numbering resources available to qualified interconnected VoIP providers on an equal basis.

***State Oversight.*** As part of this examination of how interconnected VoIP providers' access to TNs might be expanded, some parties have sought clarification of the role of state commissions. The aim of some would appear to be to enhance state commission authority over interconnected VoIP providers. In the *Notice*, the Commission observed that state commissions today are tasked with the job of making sure that carriers are technically and financially capable of providing service in their respective states and are kept apprised of "current, corporate contact information for personnel qualified to address issues relating to regulatory requirements, compliance, 911, and law enforcement."<sup>31</sup> The Commission seeks comments specifically on the role of state commissions in providing oversight of interconnected VoIP providers getting direct access to numbering resources.<sup>32</sup> We make several observations about these proposals.

*First*, under the Act, the Commission has plenary authority over NANP resources. Under this authority, the Commission is free to delegate appropriate roles to "one or more impartial entities," including the states.<sup>33</sup> Insofar as the Commission determines that state commissions

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<sup>30</sup> *Notice* para. 32 ("Vonage offered to: maintain at least 65 percent number utilization across its telephone number inventory; offer IP interconnection to other carriers and providers; and provide the Commission with a transition plan for migrating customers to its own numbers within 90 days of commencing that migration and every 90 days thereafter for 18 months.")

<sup>31</sup> *Id.* para. 33.

<sup>32</sup> *Id.* paras. 33-34.

<sup>33</sup> 47 U.S.C. § 251(e)(1).

can provide a vital role in helping the Commission oversee the use of numbering resources, the Commission is free to make use of their positions and expertise. Indeed, state commissions have been delegated this authority in the past and have played an important part in seeing that numbering resources are made available to the industry on an equitable basis and in preserving the NANP from premature exhaust.<sup>34</sup> It is reasonable to expect this role to continue as long as the Commission believes that state commissions can contribute to effectiveness of the Commission's administration of the NANP. That said, the potential for a state role in the number administration process should *not* be occasion to invite state oversight of interconnected VoIP services in areas that have nothing to do with number administration.

*Second*, the Commission's federal documentation and authorization process, proposed above, should obviate the need for state-issued CPCNs. While CPCNs have provided some reassurance as to the technical and financial capabilities of providers of TDM services, as well as current contact information, an FCC-administered documentation and authorization process, as proposed above, can provide a suitable substitute. We note that interconnected VoIP providers are providing services across America today without state commission supervision; therefore, any added documentation and authorization process imposed by the Commission should be more than adequate reassurance. Also, requiring applicants to file duplicate copies of the Commission's documentation forms and its authorization confirmation for direct access to TNs with the state regulatory bodies for those jurisdictions in which the specific interconnected VoIP providers intend to offer services would address concerns about providing state commissions with current contact information.<sup>35</sup> But again, the Commission's aim should be to guard against

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<sup>34</sup> See e.g., *Numbering Resource Optimization; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Telephone Number Portability, Third Report and Order and Second Order on Reconsideration in CC Docket No. 96-98 and CC Docket No. 99-200*, 17 FCC Rcd 252 para. 61 (2001) (Commission delegates to state commissions authority to conduct a "safety value" hearing to hear and grant claims that a carrier, which does not meet the utilization threshold in a given rate center, should be granted a waiver to obtain additional numbering resources).

<sup>35</sup> Here, we mean to suggest that the applicant might have to automatically and simultaneously file a copy of the proposed FCC form with each relevant state commission as well. Obviously, any FCC filing might also be available through a Freedom of Information Act

allowing state commissions to inadvertently become barriers to interconnected VoIP operations in those states.<sup>36</sup>

For its part, the Wisconsin PSC made four proposals presumably to *enhance* the ability of state commissions to oversee number utilization.<sup>37</sup> Two of the four Wisconsin PSC proposals—(1) the requirement to mandate use of all N11 numbers,<sup>38</sup> and (2) the requirement to maintain the original rate center designation—raise concerns.

As for mandating the use of all N11 numbers, we do not advocate tying access to TNs to this issue at this time. The use of N11 numbers in the context of interconnected VoIP service should be addressed separately, giving interested parties the opportunity to air all concerns, including any questions about technical feasibility. Either way, this issue shouldn't be resolved in this proceeding or as a prerequisite to allowing interconnected VoIP providers direct access to numbering resources.

Concerning the rate-center restriction, we are not entirely clear on what the Wisconsin PSC intends. Based on its original filing, the Wisconsin PSC would appear to mean that it wants interconnected VoIP providers to maintain rate center designations for porting purposes in the

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(FOIA) request but state commissions that have providers operating in their jurisdictions shouldn't have to go through the FOIA process to get this information.

<sup>36</sup> We note in passing that, in addition to any specific role the Commission might deem to delegate to state commissions as part of administering numbering resources, the states would still retain the rights to enact and enforce “general laws governing entities conducting business within the[ir] state[s], such as laws concerning taxation; fraud; general commercial dealings; and marketing, advertising, and other business practices.” *Vonage Order* para. 1.

<sup>37</sup> *Notice* para. 34 (“requir[ing] interconnected VoIP providers to do the following in order to obtain telephone numbers: (1) provide the relevant state commission with regulatory and numbering contacts upon first requesting numbers in that state; (2) consolidate and report all numbers under its own unique Operating Company Number (OCN); (3) provide customers with the ability to access all N11 numbers in use in a state; and (4) maintain the original rate center designation of all numbers in its inventory.”)

<sup>38</sup> N11 numbers are those abbreviated dialing patterns set aside by the Commission to provide access to specific services. To date, the Commission has set aside the following abbreviated dialing arrangements: 211 (community information and referral services), 311 (non-emergency police and other governmental services), 511 (traveler information services), 711 (telecommunications relay services), 811 (Pipeline Safety Act “One Call” notification system), and 911 (emergency services).

same manner that wireline and wireless carriers do today. If so, then we would not object to this during the migration period from the TDM world to the IP world; however, we would object to this requirement at the point that TDM is no longer the default communications format because the legacy limitations of geography and rate centers shouldn't be imported to the future all-IP world. If, on the other hand, the Wisconsin PSC means something more (*e.g.*, the customer must himself or herself reside in the geographic rate center), then we request further clarification from the Wisconsin PSC on this matter in order to develop an informed position.

### ***3. Enforcement of Interconnected VoIP Providers' Compliance with Numbering Rules***

In the *Notice*, the Commission raises questions about enforcing interconnected VoIP providers' compliance with the Commission's numbering regulations and directives (numbering rules). In large measure, we have addressed this issue above in our discussion of the documentation process for direct access to numbering resources. In brief, we proposed that, in return for obtaining direct access to numbering resources, interconnected VoIP providers seeking such access submit voluntarily to the authority of the Commission with respect to any obligations assumed in the documentation process associated with such access and to the Commission's numbering rules, including enforcement actions or forfeiture authority. Agreeing to submit to this authority will eliminate any lingering doubts (if there are any) that the Commission's plenary authority over the NANP already bestows the Commission with the power to oversee the use of those numbering resources. The Commission should be able to enforce its numbering rules, and those seeking to have direct access to numbering resources should be subject to the Commission's numbering rules enforcement authority. Conversely, such an approach would pair the *obligations* associated with direct access to TNs with the *benefit* of such access. As noted above, AT&T believes that interconnected VoIP providers seeking direct access to number resources should not be treated as second class citizens in the numbering world, but at the same time, neither should they receive preferential treatment. Requiring them to submit to the authority of the Commission to the extent noted above would create the appropriate symmetry between rights and obligations.

This concept of non-discriminatory treatment of interconnected VoIP providers equally addresses the question the Commission raised in the *Notice* of whether interconnected VoIP providers should be “red-lighted” or otherwise “deemed ineligible to obtain numbers” if they have “unpaid debts” or for other reasons, such as violating numbering rules.”<sup>39</sup> If “red-lighting” and “deemed ineligible” are enforcement tools appropriate to and applied against authorized providers, then they should be applied equally to interconnected VoIP providers as well. During the migration period from TDM-based systems to IP-based systems, there may be parallel mechanisms used to access numbering resources, but in the end providers on either track should be treated equally with respect to the Commission’s numbering rules and the tools applied to enforce them.

## **B. Additional Issues Raised in Pending Waiver Proceedings**

### ***1. Databases, Call Routing, and Termination***

In the *Notice*, the Commission asks “whether providing interconnected VoIP providers direct access to numbers will hinder or prevent call routing or tracking” and “whether the marketplace solutions described [in the *Notice*] will be adequate to properly route calls by interconnected VoIP providers, absent a VoIP interconnection agreement.” Providing interconnected VoIP providers, like Vonage, direct access to numbering resources will facilitate, rather than hinder, call routing and tracking. Under the current mechanism, interconnected VoIP providers are required to obtain numbering resources through numbering partners (typically, CLECs), which prevents other providers from determining whether a particular number belongs to the interconnected VoIP provider or its numbering partner, preventing such providers from tracking calls or routing them directly to the interconnected VoIP provider. And, by forcing interconnected VoIP providers to obtain numbers through a numbering partner, the current mechanism also prevents interconnected VoIP providers from entering direct interconnection agreements (both IP-to-IP and IP-to-TDM) with other authorized providers. Moreover, the

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<sup>39</sup> *Notice* para. 39.

existing workaround arrangements between interconnected VoIP providers and their numbering partners are inefficient and more prone to error than routing processes enabled by direct number assignment.

During the TDM-to-IP transition, interconnected VoIP providers will have to convert and exchange traffic with other carriers in TDM to route calls to and from the PSTN. They can do so indirectly by relying on numbering partners to convert VoIP traffic to TDM and exchange it with other carriers (as they do today). Or they can do so directly by negotiating commercial agreements for the exchange of traffic with other carriers and service providers. Over time, as more carriers and other providers make the transition to IP, such commercial agreements will become the norm, as they have for the exchange of other traffic on the Internet today. In either case, however, there is no reason to assume that marketplace solutions, like those described in the *Notice*, will not be adequate to properly route calls to and from interconnected VoIP providers absent evidence to the contrary.

The Commission also asks whether it should require carriers to list VoIP providers in the NPAC database and, if so, whether listing a non-facilities-based interconnected VoIP provider in the Alternate Service Provider Identification (ALT SPID) field in the NPAC database would be sufficient to allow a provider to route calls directly to a VoIP provider if the VoIP provider has a VoIP interconnection agreement.<sup>40</sup> It should not. While including ALT SPID for numbers obtained from carriers but assigned to VoIP providers in the NPAC database might facilitate IP interconnection and routing traffic to interconnected VoIP providers, such a mechanism would be a stopgap measure at best, because it would not support the ability to route different numbers used by the VoIP provider to different interconnections. In place of stopgap measures, the Commission should focus on developing long-term solutions to promote efficient use of numbering resources by interconnected VoIP providers and facilitate the transition to an all-IP ecosystem.

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<sup>40</sup> *Id.* para. 45.

Last week, AT&T filed comments encouraging the Commission to sponsor a trial using the NPAC database capabilities “to determine what new protocols and/or procedures would be necessary to assign TNs on a less-than-one-thousands-block basis (and ideally on an as-needed/just-in-time basis).”<sup>41</sup> Because such a trial would rely on the existing NPAC database, it would require the cooperation of Neustar, Inc. (Neustar), which serves as both the Number Pooling Administrator (PA) and the administrator of the NPAC. Under the trial, the PA would create a Just-in-Time (JIT) Administrator function for numbering resources.<sup>42</sup> The JIT Administrator would have its own Service Provider ID (SPID) or would use the PA’s SPID to obtain numbering blocks that could then be distributed on an individual, just-in-time basis to carriers and VoIP providers (either directly, to the extent they have obtained a waiver to obtain direct access to numbers, or through their numbering partners) using the number porting process. Thus, for example, if a VoIP provider needed a TN, it would submit a request to port the TN from the JIT Administrator just as if the JIT Administrator were an Old Local Service Provider (OLSP), as defined in the NANC number porting process flows.<sup>43</sup> Acting as the OLSP, the JIT Administrator would port the TN to the interconnected VoIP provider’s numbering partner (or to the VoIP provider itself if it was authorized to obtain direct access to numbers) in the role of the New Local Service Provider (NLSP), using an appropriate LRN.<sup>44</sup> Once the TN was assigned

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<sup>41</sup> See Public Notice, *Technology Transitions Policy Task Force Seeks Comment on Potential Trials*, GN Docket No. 13-5, at 1 (rel. May 10, 2013) (Public Notice); and Comments of AT&T, GN Docket No. 13-5, p. 38 (July 8, 2013) (*AT&T Technology Trial Comments*) (encouraging the Commission to allocate numbering resources based on the “just-in-time” (JIT) inventory concept, which relies on having “the right material, at the right time, at the right place, and in the exact amount,” without the safety net of inventory) (citing [http://en.wikipedia.org/wiki/Just-in-time\\_\(business\)](http://en.wikipedia.org/wiki/Just-in-time_(business)))).

<sup>42</sup> Under the trial, the PA could either create a separate JIT entity for this purpose or it could simply adopt the JIT functions as part of its role as the PA. Either way, the trial envisions a JIT Administrator database that could be populated with TNs, preferably TNs from contaminated blocks, which would further improve numbering resource optimization.

<sup>43</sup> As with the original ITN pooling concept, the JIT Administrator would be the third-party administrator that coordinates the allocation of the individual numbers to a particular service provider with the NPAC. See *Numbering Resource Optimization, Report and Order and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 7574, 7676 (2000) (*First NRO Order*).

<sup>44</sup> In addition to an LRN used today to route numbers on the PSTN, a service provider supporting IP interconnection might also populate one of the NPAC uniform resource identifier

and activated, inbound calls to the TN would be routed to the VoIP provider just as ported TNs are routed today. And, if the number is disconnected, the TN would “snap back” to the JIT Administrator.<sup>45</sup> In short, the process we propose would build on the existing local number portability (LNP) process to assign numbers on an individual basis.

Allocating numbers on an individual, JIT basis would significantly improve the number assignment process and more efficiently allocate scarce numbering resources by making all unassigned numbers available for assignment rather than stranding them in blocks of numbers allocated to a particular provider. It also would help facilitate the migration from TDM to IP, as well as assuage the fears of some about TN exhaust.

The Commission could implement a JIT numbering resource allocation process, whether on a trial or long-term basis, quickly and without great expense. While the process would require some upfront expenditures to cover the cost of planning and modifying existing numbering databases and numbering allocation protocols and processes, those costs likely would be minimal because the process would build on existing numbering databases and processes.

Over the long haul, as the communications industry completes the transition from TDM to IP, providers increasingly will rely on addressing and routing protocols based on uniform resource identifiers (URIs) and, ultimately, to IP addresses. That, in turn, will require the industry to deploy new protocols and processes for translating TNs into URIs and IP addresses to properly route traffic. Here again, the Commission can and should encourage the industry to build on existing databases and processes, and rely on the NPAC to serve as a central registry.<sup>46</sup>

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(URI) fields with information for IP interconnection routing. Service providers are currently in informal discussions about how to use the NPAC URI fields to support IP interconnection and routing.

<sup>45</sup> See *Telephone Number Portability, Second Report and Order*, 12 FCC Rcd 12281, 12326-327 para. 79 (1997).

<sup>46</sup> Whether it would make sense post-migration to consolidate the NPAC and other numbering related functions in a single database can be examined later as the industry settles on procedures for IP interconnection. See Henning Schulzrinne, Federal Communications Commission, Chief Technology Officer, *TECHNOLOGY TRANSITION: NUMBERING*, p. 23 (NANC Presentation Feb. 21, 2013). The permanent resolution of this routing issue and the use of existing databases, however, should be referred to the NANC (specifically to the Local Number

The NPAC already has the resources and capabilities to associate (either directly or indirectly) IP routing information with TNs, and easily could distribute both TDM and IP routing information to providers as they transition from TDM to IP. During the migration period, the NPAC database also would continue to support number portability so long as traffic continues to be routed based on TNs.

## **2. Intercarrier Compensation**

The Commission should reject concerns that “the implementation of intercarrier compensation obligations may change as a result of granting VoIP providers direct access to numbers.”<sup>47</sup> Obligations to pay intercarrier compensation have never stemmed from numbers, and that should not change if VoIP providers obtain direct access to numbers.<sup>48</sup> The Commission thus must be clear that any numbering trials and/or permanent number assignments to interconnected VoIP providers in no way change or disrupt existing intercarrier compensation rights and obligations.

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Portability Administration working group or LNPA WG) on how to use and populate the NPAC for this purpose.

<sup>47</sup> *Notice* at para. 50. Interconnected VoIP providers today generally obtain numbers and interconnection to the PSTN through a wholesale carrier partner, usually a competitive LEC. Generally, both numbers and interconnection are provided by the same carrier and that carrier pays and charges intercarrier compensation for traffic to and from the interconnected VoIP provider (retail VoIP partner). Once interconnected VoIP providers obtain numbering resources directly, that changes. Numbers and interconnection are no longer provided together by the same carrier. But the interconnected VoIP provider still needs interconnection to the PSTN. To the extent an interconnected VoIP provider holds itself out as an information service provider, rather than a carrier, it will have no right to demand interconnection under the Act and thus will need to negotiate commercial agreements with carriers to obtain interconnection to the PSTN.

<sup>48</sup> Although intercarrier compensation rights and obligations are not based on numbering, numbers are used for billing purposes. As a consequence, some billing issues may arise once interconnected VoIP providers obtain direct access to numbers. Those issues will have to be addressed through industry standards organizations or through workarounds individually negotiated with interconnecting carriers while new industry standards and processes are developed. We note, however, that the use of the Alternate Service Provider Identification (ALT SPID) field in the NPAC database would not be an appropriate basis for assessing access charges. *See Notice* at para. 45. The ALT SPID field was not designed for intercarrier compensation purposes and the systems do not associate ALT SPID with individual calls. Moreover, the data in the ALT SPID field may not be reliable for these purposes because no standard has been adopted for that data.

Claims by various commenters to the contrary (that providing interconnected VoIP providers direct access to numbers could affect intercarrier compensation obligations)<sup>49</sup> are specious. These commenters have made a business of “selling” numbers to interconnected VoIP providers, and thus seek to throw up as many obstacles as possible to prevent such providers from obtaining direct access to numbering resources in a thinly veiled attempt to protect the revenues they currently derive from arbitraging phone numbers.<sup>50</sup> They fail, however, to offer any concrete evidence to substantiate their claims that providing direct access to numbers to interconnected VoIP providers would result in practical problems or otherwise raise significant policy issues. Instead, they conflate the separate issues of numbers, interconnection, and intercarrier compensation in the hope that the Commission will miss their sleight of hand, and delay or deny interconnected VoIP providers direct access to numbers to avoid upsetting the important intercarrier compensation reforms adopted in the *USF/ICC Transformation Order*.<sup>51</sup>

In that order, the Commission adopted a series of reforms to begin a transition away from the “pre-existing, flawed intercarrier compensation regimes,”<sup>52</sup> including a transitional

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<sup>49</sup> See *Notice* at para. 50; see also, e.g., Comments of Level 3 and COMPTTEL, CC Docket No. 99-200, at 10-11 (filed Aug. 23, 2012); Comments of National Telecommunications Cooperative Association, CC Docket No. 99-200, at 4 (filed Aug. 23, 2012); Letter from Erin Boone, Level 3 to Marlene H. Dortch, Secretary, FCC, CC Docket 99-200, WC Docket No. 10-90; GN Docket No. 09-51; WC Docket No. 07-135; WC Docket No. 05-337; CC Docket No. 01-92; CC Docket No. 96-45; WC Docket No. 03-109; WT Docket No. 10-208, Attach. at 2 (July 5, 2012).

<sup>50</sup> See, e.g., Letter from Robert W. Quinn, Jr., Senior Vice President, AT&T to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200; WC Docket No. 10-90; GN Docket No. 09-51; WC Docket No. 07-135; WC Docket No. 05-337; CC Docket No. 01-92; CC Docket No. 96-45; WC Docket No. 03-109; WT Docket No. 10-208 (May 21, 2012); Letter from Erin Boone, Senior Corporate Counsel, Level 3 to Marlene H. Dortch, Secretary, FCC, CC Docket 99-200; WC Docket No. 10-90; GN Docket No. 09-51; WC Docket No. 07-135; WC Docket No. 05-337; CC Docket No. 01-92; CC Docket No. 96-45; WC Docket No. 03-109; WT Docket No. 10-208 (Aug 21, 2012).

<sup>51</sup> *Connect America Fund, et al.*, WC Docket No. 10-90, *et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (*USF/ICC Transformation Order*), *pets. for review pending sub nom. In re: FCC 11-161*, No. 11-9900 (10th Cir. filed Dec. 8, 2011).

<sup>52</sup> *Id.* at para. 946.

compensation regime for VoIP-PSTN traffic.<sup>53</sup> In adopting that regime, the Commission acknowledged widespread disputes and litigation about intercarrier compensation obligations for this traffic throughout the industry.<sup>54</sup> The Commission's stated goals were, among others, to provide certainty regarding prospective obligations and to reduce these protracted disputes.<sup>55</sup> Although these rules for VoIP-PSTN traffic were prospective only, the transitional regime for VoIP-PSTN traffic rested on the long-established and well-understood mechanisms of access charges and reciprocal compensation for PSTN traffic, including tariffs and interconnection agreements.<sup>56</sup> These mechanisms will continue to apply and govern intercarrier compensation for VoIP-PSTN traffic regardless of whether interconnected VoIP providers obtain direct access to telephone numbers. Parties to a particular agreement will remain bound by the terms of that agreement. And providers that take service under a tariff will remain legally responsible for lawfully tariffed charges for access functions provided. Thus, to the extent an interconnected VoIP provider hands off traffic directly to a carrier pursuant to tariff or a commercial agreement, that VoIP provider will be responsible for the access or other services it uses. If, on the other hand, an interconnected VoIP provider, with directly assigned numbers, hands off traffic to an intermediate carrier for delivery to another carrier, the intermediate carrier will have that obligation. That is the case now, and that will continue to be the case if the interconnected VoIP provider has its own numbers.

As the Commission readily acknowledges, providing interconnected VoIP providers direct access to numbering resources is a necessary step to enable interconnected VoIP providers to interconnect and exchange voice traffic directly with other providers.<sup>57</sup> At that point, compensation for exchanged traffic will be governed by contracts between the parties that will be

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<sup>53</sup> *See id.* at paras. 933-74.

<sup>54</sup> *See id.* at para. 937.

<sup>55</sup> *See id.* at para. 946.

<sup>56</sup> *See id.* at paras. 943-45, 960-67.

<sup>57</sup> *See Notice* at para. 50.

outside the default intercarrier compensation regime, as the Commission envisioned in the *USF/ICC Transformation Order*.<sup>58</sup>

For these reasons, the Commission should unequivocally reject opponents' intercarrier compensation concerns and declare that numbering assignments will in no way change parties' rights and obligations under the Commission's intercarrier compensation regime.

### **3. VoIP Interconnection**

The *Notice* properly recognizes that encouraging the ubiquitous deployment of next generation broadband infrastructure is one of the Commission's central missions under the Act, and that achieving that goal will depend on completing the transition to all-IP networks, an essential component of which will be "IP-to-IP interconnection" (*i.e.*, exchanging voice traffic in native Internet protocol formats).<sup>59</sup> The *Notice* thus seeks comment on the impact that granting VoIP providers direct access to numbers will have on the TDM-to-IP transition and what additional steps the Commission may take to encourage IP-to-IP interconnection. The short answer is that providing direct access to numbering resources will be an important catalyst in furthering the ongoing transition and broadening the commercial IP interconnection that already has occurred. However, significant additional work by industry stakeholders—particularly in developing efficient ENUM-type mechanisms for associating IP addresses with telephone numbers—will be necessary to fully scale direct IP interconnection. And while there are several targeted actions the Commission can take to assist in this effort, the most important step the Commission can take is to move forward with AT&T's proposal to run geographic trials of the transition from legacy, TDM-based networks and services to next-generation, IP-based alternatives.

The critical importance of this historic transition cannot be overstated. As the Commission recognized in the *National Broadband Plan*, "the convergence of all

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<sup>58</sup> See *USF/ICC Transformation Order* at paras. 812, 825, 960, 964.

<sup>59</sup> *Notice* para.54 (quoting *USF/ICC Transformation Order*, 26 FCC Rcd at 17926, para.783).

communications around IP-based networks and the innovative services those networks support” will bring “extraordinary opportunities to improve American life and benefit consumers.”<sup>60</sup> IP networks are far more versatile and efficient than single-purpose networks like the TDM-based PSTN. IP-based technological convergence also will intensify competition at all layers of the communications ecosystem, both among facilities-based providers of rival broadband platforms and among independent providers of higher-layer IP services.

Scaled IP-to-IP interconnection, in turn, will be an essential element in completing the transition from TDM to IP networks and services. As the Commission’s Technology Transitions Policy Task Force recently emphasized, VoIP interconnection “unleashes the potential for new services and features for consumers such as high definition (HD) audio, additional video and text media formats, and secured caller ID.”<sup>61</sup> At the same time, there is nothing truly new about IP interconnection—to the contrary, it is as old as the commercial Internet. For the past two decades diverse providers have successfully negotiated voluntary, commercial agreements—primarily Internet peering and transit agreements—that enable IP-based services to work across multiple IP networks. And as consumer demand drives the need for more such agreements and ubiquitous IP interconnection, there is no reason to believe that this process will founder without unnecessary and counter-productive regulatory oversight and intervention.

That is not to say the Commission has no role in this process. To the contrary, it should closely monitor industry progress, and “facilitat[e] industry progression to all-IP networks” by “eliminat[ing] barriers to IP-to-IP interconnection.”<sup>62</sup> Providing VoIP providers with direct access to numbering resources would do just that. Requiring VoIP providers to continue to rely on other carriers, primarily CLECs, for numbers is precisely the type of barrier that should be eliminated to encourage new commercial arrangements for IP-to-IP interconnection. As Vonage

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<sup>60</sup> FCC, *Connecting America: The National Broadband Plan*, at 59 (2010) (*National Broadband Plan*).

<sup>61</sup> *Technology Transitions Policy Task Force Seeks Comments on Potential Trials*, Public Notice, GN Docket No. 13-5 (May 10, 2013) (*Public Notice*), at 4.

<sup>62</sup> *USF/ICC Transformation Order*, 26 FCC Rcd at 17926, para.1340.

previously has commented, forcing VoIP providers to rely on these CLECs complicates the number porting process, and ultimately raises the VoIP providers' costs.<sup>63</sup> Granting VoIP providers with direct access will help eliminate these inefficiencies. The Commission is right to anticipate that this should "facilitate several types of VoIP interconnection" among a variety of providers.<sup>64</sup> Vonage, for example, "has already negotiated technical and commercial terms for such agreements with several tier 1 carriers," despite the impediment of being required to obtain numbers through a CLEC middleman.<sup>65</sup> Eliminating the necessity for that arrangement should help encourage an even broader market-driven movement toward IP-to-IP interconnection.

Although providing direct access to numbering resources certainly should help catalyze the transition to direct IP interconnection, other work is essential to this process. In particular, and as AT&T discussed in comments recently submitted to the Technology Transitions Policy Task Force,<sup>66</sup> the development of a numbering database that can be accessed by all providers, and will enable different VoIP providers to find one another's customers as efficiently as TDM-based carriers can find one another's customers today via conventional numbering databases, is a necessary predicate to scaling IP-to-IP interconnection on an industry-wide basis. The NPAC database could accommodate this need, and an expanding number of providers (including ILECs, CLECs, cable companies, and wireless providers) already are working on proposals for using the NPAC and NPAC administrator to provide this function, and have begun discussions to initiate a trial later this year. The Commission should encourage the work of these multi-stakeholder industry groups on the development of an ENUM-type database, as well as the ongoing collaborative efforts to establish other standards necessary for direct IP interconnection.

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<sup>63</sup> Comments of Vonage Holdings Corp., CC Docket No. 99-200 (Jan. 25, 2012) ("Vonage Comments"), at 6.

<sup>64</sup> *Notice* para.54.

<sup>65</sup> Vonage Comments at 6.

<sup>66</sup> Comments of AT&T, *Technology Transitions Policy Task Force Seeks Comment on Potential Trials*, GN Docket No. 13-5 (July 8, 2013), at 25-27.

There are still other targeted steps the Commission can take to eliminate regulatory and technical roadblocks and encourage VoIP interconnection. For one, the Commission could significantly advance the IP transition by establishing a date by which carriers would no longer have an obligation to interconnect via TDM. As AT&T previously has explained,<sup>67</sup> establishing the PTSN sunset date of 2018 that was recommended by the Commission's Technology Advisory Council will create certainty for the industry and prompt any remaining TDM networks to migrate to IP technologies, or at a minimum to arrange for the provision of IP-TDM gateways.

But the most important step the Commission could take to identify and address any further impediments to a seamless TDM-to-IP transition would be to adopt AT&T's proposal for comprehensive geographic trials. In particular, the Task Force should move forward with AT&T's proposal to run geographic trials of the transition from legacy, TDM-based networks and services to next-generation, IP-based alternatives. As AT&T has explained in prior submissions to the Commission,<sup>68</sup> these trials would shed light on any issues created by the transition to all-IP architectures. They also would provide a forum for all stakeholders, including communities, industry and government, to come together to identify gaps—in technology, services or policy—and craft solutions to those issues in an environment in which a TDM safety net still is in place. The geographic trials AT&T proposed will provide on-the-ground facts regarding the effects of the transition and would empower the Commission, the industry, and affected communities to prevent disruptions and consumer harm as the transition moves forward nationwide. In much the same way that the DTV trial in Wilmington, North Carolina, highlighted technical issues regarding the digital television conversion, as well as pockets of

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<sup>67</sup> Comments of AT&T, *In the Matter of Connect America Fund*, WC Docket No. 10-90 (Feb. 24, 2012), at 48-49.

<sup>68</sup> See Comments of AT&T, *AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition et al.*, GN Docket No. 12-353, at 2-10 (filed Jan. 28, 2013); Reply Comments of AT&T, *AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition et al.*, GN Docket No. 12-353, at 5-11 (filed Feb. 25, 2013); Comments of AT&T, *Technology Transitions Policy Task Force Seeks Comment on Potential Trials*, GN Docket No. 13-5 (filed July 8, 2013).

citizens who required more assistance and education concerning how to make that conversion, the trials we propose will provide critical information that will make the TDM-to-IP conversion as smooth and non-disruptive as it can possibly be.

At the same time, the worst step the Commission could take relative to the IP transition would be to entertain the proposals of some commenters to employ a backward-looking regulatory approach to IP interconnection, especially as a predicate to granting direct access to numbers.<sup>69</sup> AT&T has explained in detail in prior filings why such an approach would be completely contrary to law.<sup>70</sup> Just as importantly, as AT&T again has previously explained,<sup>71</sup> that approach would be bad policy, because it would fundamentally be at odds with the Commission's goal of *facilitating* the IP transition by *eliminating* barriers to IP-to-IP interconnection. Imposing the Section 251/252 straightjacket on IP interconnection would erect just such a barrier.

Experience in the market already shows that such regulation is not necessary. In fact, applying a Section 251 regulatory framework to IP negotiations flies in the face of experience and the realities of today's unregulated marketplace for IP services. Notwithstanding (or more likely because of) the lack of statutory or regulatory obligations and oversight, the Internet's constituent networks (large and small) have reached efficient interconnection agreements anyway. Unregulated peering and transit arrangements—over which millions of over-the-top VoIP calls are exchanged every day—have succeeded for over twenty years in propelling the phenomenal growth of the Internet, and there is absolutely no reason to believe that this process will not continue as providers transition from TDM to IP. Accordingly, applying the section

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<sup>69</sup> *See Notice*, para.52 (citing comments).

<sup>70</sup> For a fuller treatment of these legal issues, *see* AT&T's comments and reply comments regarding the Further Notice of Proposed Rulemaking, *In the Matter of Connect America Fund*, WC Docket Nos. 10-90 *et al.* (filed Feb. 24, 2012 and Mar. 30, 2012). *See also* AT&T's reply comments in GN Docket No. 12-353, filed on February 25, 2013.

<sup>71</sup> *See id.*

251/252 framework would be entirely counter-productive to the Commission's worthy goal of promoting IP interconnection and facilitating the TDM-to-IP transition.

#### **4. Local Number Portability (LNP) Obligations**

Some commenters also have raised questions concerning LNP as a basis for denying VoIP providers direct access to telephone numbers. But, as with claims that providing such access would undermine the Commission's intercarrier compensation reforms, these claims are disingenuous and raised by interconnected VoIP providers' current numbering partners to dissuade Commission action on the interconnected VoIP providers' petitions. The Commission already has adopted rules to ensure that carriers cannot prevent customers from porting their telephone numbers when switching to interconnected VoIP services, regardless of whether a customer's VoIP service provider obtains numbers directly or through a carrier partner.<sup>72</sup> Consequently, no change in the rules is necessary. But, although there is no ambiguity in the Commission's *VoIP LNP Order* on this point, we would not oppose the Commission's making the intent of that order even clearer on this issue.

The Commission asks whether it should apply any geographic limitations to ports between wireline/wireless carriers, on the one hand, and interconnected VoIP providers that obtain numbers directly from the number administrators.<sup>73</sup> Over the long term, AT&T supports geographic number portability. But, for now, during the TDM-to-IP transition, the Commission should apply the same rate center restriction on ports to interconnected VoIP providers that it adopted for wireline-to-wireless ports in *Wireline-to-Wireless LNP Order*.<sup>74</sup> That restriction is necessary for rating and routing purposes in the TDM world, as well as to keep all providers

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<sup>72</sup> Notice para. 61.

<sup>73</sup> *Id.* para. 64.

<sup>74</sup> See *Telephone Number Portability; CTIA Petitions for Declaratory Ruling on Wireline-Wireless Porting Issues, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 23697 para. 22 (2003) ("LECs must port numbers to wireless carriers where the requesting wireless carrier's 'coverage area' overlaps the geographic location of the rate center in which the customer's wireline number is provisioned, provided that the porting-in carrier maintains the number's original rate center designation following the port.").

subject to LNP—wireline LECs, CMRS providers, and interconnected VoIP providers—in relative sync.

### **5. *Numbering Cost Allocation***

The Act entitles the Commission to delegate administration of the NANP to third parties. In order to provide efficient access to numbering resources, the Commission has delegated certain duties to the NANPA and the PA, including administration of the NPAC database. These services and databases cost money. To recover those cost, the Commission has devised cost allocation schemes for them. In the *Notice*, the Commission asks whether it should amend its “numbering cost allocation rules in light of changes in the industry, including the potential expansion of direct access to numbers to entities that previously did not have direct access, for VoIP telephony and other purposes . . . [and] more generally in light of changes to technology and the communications landscape.”<sup>75</sup> It should, for the reasons articulated in BellSouth’s long-pending petition to modify the existing numbering cost allocation scheme.<sup>76</sup> Under the existing rules, the Commission adopted a cost allocation scheme that required incumbent providers to pay a disproportionate share of costs of implementing number portability in order to protect nascent competitors. Whatever the merits of that scheme when it was adopted, there no longer is any basis for tipping the scales in favor of any segment of the communications marketplace. Rather, all providers that benefit from obtaining numbering resources and number portability should share equally in bearing the costs of numbering administration. Consequently, a head-to-toe reexamination of the existing scheme is long overdue.

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<sup>75</sup> *Notice* paras. 68 & 69.

<sup>76</sup> See BellSouth Petition for Rulemaking to Change the Distribution Methodology for Shared Local Number Portability and Thousands-Block Number Pooling Costs, RM-11299 (filed Nov. 3, 2005); and Comments of AT&T Inc. on Verizon’s Petition for Declaratory Ruling, WC Docket No. 11-95 (July 15, 2011).

### **C. Direct Access to Numbers for Other Providers**

The Commission asks whether it should expand access to numbers beyond the proposal regarding interconnected VoIP providers; that is, should the Commission expand access to numbers to providers of VoIP service that does not meet the definition of “interconnected VoIP”?<sup>77</sup> AT&T supports expanding access to TNs to providers that do not fit the technical definition of interconnected VoIP as long as such are use TNs consistent with the principle of *universal connectivity* described above in the discussion of the certification process.

### **III. COMMENTS ON NOTICE OF INQUIRY**

In the *NOI*, the Commission asks “whether TNs should remain associated with particular geographies.”<sup>78</sup> Historically, TNs were assigned to particular geographic areas (*i.e.*, rate centers) for both rating and routing purposes. Specifically, TNs were assigned to a particular rate center in the wireline, circuit-switched world to: (1) correctly route traffic and thus establish an end-to-end circuit between the calling and called parties; and (2) identify whether a particular call is local or long-distance (and, more specifically, inter- or intra-state, and inter- or intra-LATA toll traffic) and charge accordingly. Nevertheless, as consumers migrate to all-distance and jurisdictionally agnostic wireless and VoIP services, TNs are becoming increasingly irrelevant for these purposes, as the Commission itself recognizes. Thus, over the long haul, as the industry completes the transition to all-IP networks and services, TNs likely no longer will be associated with particular geographies, and the Commission’s rules ultimately must evolve to reflect these marketplace changes. For now, however, TNs should remain associated with particular geographies because, in a TDM world—where providers continue to rely on traditional interconnection, intercarrier compensation, and routing mechanisms and protocols— associating TNs with particular geographies remains necessary to properly route and rate traffic.

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<sup>77</sup> *Notice* para. 71.

<sup>78</sup> *NOI* para. 115.

The Commission expresses concern that decoupling (*i.e.*, disassociating) TNs from particular geographic areas would accelerate TN exhaust or facilitate fraud and/or spoofing. These concerns are exaggerated. As an initial matter, this decoupling already is well underway due to the migration of consumers away from traditional, wireline telephone services to wireless and VoIP alternatives. As a consequence, modifying the rules to decouple TNs from particular geographic areas as the TDM-to-IP transition progresses will not exacerbate the concerns the Commission identifies.

In any event, the fear that decoupling TNs from geography will accelerate TN exhaust appears to be based largely on the belief that consumers will prefer certain popular or prestigious NPAs over others. But the purported caché of certain NPAs (*e.g.*, 212, 312, 213, 415) will dissipate over time (if they have not already) due to changes in technology (*e.g.*, the increasingly reliance on “contact lists” to place calls), generational changes (with younger people not making the same connections with particular NPAs), and the “dilution of the brand” caused by NPA overlays (*i.e.*, there are at least six NPAs in the old New York City NPA of 212). The concern that decoupling TNs from geography will accelerate thus seems overstated.

Moreover, the fraud and spoofing of most concern to law enforcement and regulators doesn’t rely on the use of *actual* TNs, and thus will not be affected or made worse by decoupling TNs from geography. These illicit activities rely on false calling party numbers (CPNs), regardless of the actual originating TN of the perpetrator of the fraud or spoof. By using false CPNs, the perpetrator can give the called party the impression that he or she is anyone or anywhere—a neighbor, local business, banking customer service department. Decoupling TNs from geography thus will have no impact, positive or negative, on such activities.<sup>79</sup>

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<sup>79</sup> We aren’t suggesting that fraud and spoofing need not be addressed by the Commission, law enforcement, and industry bodies. We simply point out that these concerns are not a direct by-product of the decoupling of TNs from geography.

#### **IV. CONCLUSION**

AT&T respectfully requests that the Commission consider these comments in its deliberations on this matter.

**AT&T**

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