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
	)	
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	)	
	)	
Petition of TeleCommunication Systems, Inc. and HBF Group, Inc. for Waiver of Part 52 of the Commission's Rules	)	

NOTICE OF PROPOSED RULEMAKING, ORDER AND NOTICE OF INQUIRY

Adopted: April 18, 2013 **Released: April 18, 2013**

Comment Date: (30 days after date of publication in the Federal Register)
Reply Comment Date: (60 after date of publication in the Federal Register)

By the Commission: Chairman Genachowski and Commissioners Clyburn, Rosenworcel and Pai issuing separate statements; Commissioner McDowell not participating.

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I. INTRODUCTION

1. Telephone numbers are a valuable and limited resource; access to and use of numbers must be managed judiciously to ensure that they are available as needed and to protect the efficient and reliable operation of the telephone network. At the same time, the Commission is engaged in a broad-ranging effort to modernize our rules in light of significant ongoing technology transitions in the delivery of voice services, with the goal of promoting innovation, investment, and competition for the ultimate

benefit of consumers and businesses.[1] Consistent with this effort, in this Notice of Proposed Rulemaking (Notice), we propose to promote innovation and efficiency by allowing interconnected Voice over Internet Protocol (VoIP) providers to obtain telephone numbers directly from the North American Numbering Plan Administrator (NANPA) and the Pooling Administrator (PA), subject to certain requirements. We anticipate that allowing interconnected VoIP providers to have direct access to numbers will help speed the delivery of innovative services to consumers and businesses, while preserving the integrity of the network and appropriate oversight of telephone number assignments. We also seek comment on a forward-looking approach to numbers for other types of providers and uses, including telematics and public safety, and the potential benefits and number exhaust risks of granting providers other than interconnected VoIP providers direct access to numbers.

2. In the attached Order, we establish a limited technical trial of direct access to numbers. Specifically, we grant Vonage Holdings Corporation (Vonage) and other interconnected VoIP providers that have pending petitions for waiver of section 52.15(g)(2)(i) of the Commission's rules and that meet the terms and conditions outlined below a limited, conditional waiver to obtain a small pool of telephone numbers directly from the NANPA and/or the PA for use in providing interconnected VoIP services. We tailor this waiver to test whether giving interconnected VoIP providers direct access to numbers will raise issues relating to number exhaust, number porting, VoIP interconnection, or intercarrier compensation, and if so, how those issues may be efficiently addressed. Trial participants will be required to file regular reports throughout and at the end of the six-month trial, and state commissions and other interested parties will have an opportunity to comment on these reports. The trial, and the public comment, will improve the Commission's ability to adopt well-crafted rules in this proceeding.

3. In addition, we grant a narrow waiver of section 52.15(g)(2)(i) of our rules to allow TeleCommunication Systems, Inc. (TCS) direct access to pseudo Automatic Number Identification (p-ANI) codes for the purpose of providing 911 and Enhanced 911 (E911) service. As discussed below, this limited waiver will allow TCS, which provides VoIP Positioning Center service, to better ensure that emergency calls are properly routed to trained responders at public safety answering points, or PSAPs.

4. Finally, in the accompanying Notice of Inquiry, we seek comment on a range of issues regarding our long-term approach to numbering resources. The relationship between numbers and geography—taken for granted when numbers were first assigned to fixed wireline telephones—is evolving as consumers turn increasingly to mobile and nomadic services. We seek comment on these trends and associated Commission policies.

II. BACKGROUND

A. Commission Authority and Rules

5. The Communications Act of 1934, as amended (the Act), grants the Commission plenary authority over the North American Numbering Plan (NANP) within the United States.[2] In its Numbering Resource Optimization (NRO) proceeding, the Commission adopted several optimization measures that allow it to monitor more closely how telephone numbers are used within the NANP.[3] These measures

[1] *See FCC Chairman Julius Genachowski Announces Formation of "Technology Transitions Policy Task Force"* (Dec. 10, 2012) (forming an agency-wide Technology Transitions Policy Task Force to "provide recommendations to modernize the Commission's policies"); *FCC Announces First Technology Transitions Policy Task Force Workshop*, GN Docket No. 13-5, Public Notice (rel. Feb. 12, 2013); *see also FCC Announces Formation of the Technological Advisory Council*, Public Notice (rel. Oct. 25, 2010).

[2] 47 U.S.C. § 251(e)(1). The NANP is the basic numbering scheme for telecommunications networks located in the United States and its territories, Canada, and parts of the Caribbean. *See* 47 C.F.R. § 52.5(c).

[3] For instance, in the *NRO First Report and Order*, the Commission adopted national thousands-block number pooling as a mechanism to remedy the inefficient allocation and use of numbers and required thousands-block

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also promote more efficient allocation and use of numbers by tying a carrier's ability to obtain them more closely to its actual need for numbers to serve its customers. In particular, to combat the inefficient use of numbers, section 52.15(g)(2)(i) of the Commission's rules requires an applicant for telephone numbers to provide evidence that it is authorized to provide service in the area in which it is requesting those numbers.[4] The Commission interpreted this rule in its *NRO First Report and Order* as requiring evidence of either state certification or a Commission license.[5]

6. Interconnected VoIP service enables users, over broadband connections, to receive calls that originate from the public switched telephone network (PSTN) or other VoIP users, and to terminate calls to the PSTN or other VoIP users.[6] However, the Commission has not addressed the classification of interconnected VoIP services, and thus retail interconnected VoIP providers in many, but not all, instances take the position that they are not subject to regulation as telecommunications carriers, nor can they directly avail themselves of various rights under sections 251 and 252 of the Act.[7]

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pooling in the largest 100 Metropolitan Statistical Areas (MSAs) within nine months of selection of a pooling administrator. *Numbering Resource Optimization*, CC Docket No. 99-200, Report and Order and Further Notice of Proposed Rulemaking, 15 FCC Rcd 7574, 7625, 7644-45, paras. 122, 157-158 (2000) (*NRO First Report and Order*). Since its implementation, pooling has expanded; and between 2007 and 2011, total blocks assigned in the Pooling Administration System (PAS) increased 68%. *See* National Pooling Administration Annual Report *available at* www.nationalpooling.com.

[4] 47 C.F.R. § 52.15(g)(2)(i).

[5] *See NRO First Report and Order*, 15 FCC Rcd at 7615, para. 97 (requiring carriers seeking direct access to telephone numbers to provide evidence that they are authorized to provide service in areas for which they are seeking numbers, such as by submitting a state certification as a carrier); *see also Telephone Number Requirements for IP-Enabled Services Providers; Local Number Portability Porting Interval and Validation Requirements; IP-Enabled Services; Telephone Number Portability; Numbering Resource Optimization*, WC Docket Nos. 07-243, 07-244, 04-36, CC Docket Nos. 95-116, 99-200, Report and Order, Declaratory Ruling, Order on Remand, and Notice of Proposed Rulemaking, 22 FCC Rcd 19531, 19537, para. 12 (2007) (*VoIP LNP Order*), *aff'd sub nom. National Telecomms. Cooperative Ass'n v. FCC* (D.C. Cir. Apr. 28, 2009).

[6] *See* 47 C.F.R. § 9.3 (defining "interconnected VoIP service" as "a service that: (1) enables real-time, two-way voice communications; (2) requires a broadband connection from the user's location; (3) requires Internet protocol-compatible customer premises equipment (CPE); and (4) permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network"); *see also IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers*, WC Docket Nos. 04-36, 05-196, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 10245, 10257-58, para. 24 (2005) (*VoIP 911 Order*), *aff'd sub nom. Nuvio Corp. v. FCC*, 473 F.3d 302 (D.C. Cir. 2006); 47 C.F.R. § 54.5 (defining "interconnected VoIP provider").

[7] *See Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing an Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service' Lifeline and Link*-Up, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, 26 FCC Rcd 4554, 4710, para. 507, 4745-746, para. 610 (2011) (noting that the lack of classification for VoIP services has led to disputes between carriers and VoIP providers regarding intercarrier compensation obligations for VoIP traffic); *see also, e.g.*, Letter from Joseph A. Douglas, Vice President-Government Relations, NECA, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-92, WC Docket No. 04-36, Attach. at 2 (filed May 23, 2008); Letter from Kristopher E. Twomey, Regulatory Counsel, CommPartners, to Marlene H. Dortch, FCC, CC Docket No. 01-92 at 1 (filed Dec. 12, 2007); Letter from Joseph A. Douglas, Vice President-Government Relations, NECA, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-92, WC Docket No. 04-36, Attach. at 6 (filed May 2, 2007); Letter from Gregory J. Vogt, Counsel for CenturyTel, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 96-45, 96-98, 99-68, WC Docket No. 05-337 at 4-5 (filed Oct. 20, 2008); Windstream Comments, CC Docket Nos. 94-68, 96-45, 96-98, 99-68, WC Docket Nos. 04-36, 05-337, 06-122, 07-135, 08-152 at 14-15 (filed Aug. 21, 2008); Letter from Stuart Polikoff, Director of Government Relations, OPASTCO, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 96-45, 01-92, WC Docket No. 05-337, Attach. at 3 (filed Oct. 16, 2008); AT&T July 17, 2008 *Ex Parte* Letter, Attach. 1 at 11; Letter
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7. In order to provide interconnected VoIP service, a provider must offer consumers NANP telephone numbers; otherwise, a customer on the PSTN would not have a way to dial the interconnected VoIP customer using his PSTN service.[8] Interconnected VoIP providers often cannot obtain telephone numbers directly from the numbering administrators as they cannot provide the evidence of certification required by section 52.15(g)(2)(i)—they typically do not hold state certifications or Commission licenses.[9] Thus, these providers generally obtain NANP telephone numbers by purchasing wholesale services from a competitive local exchange carrier (CLEC), and then using these services to interconnect with the PSTN in order to send and receive certain types of traffic between the VoIP provider's network and the carrier networks.[10]

8. The Commission has acted to ensure consumer protection, public safety, and other important policy goals in orders addressing interconnected VoIP services,[11] without classifying those services as telecommunications services or information services under the Communications Act.[12] For

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from Melissa E. Newman, Vice President-Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 99-68, 01-92, WC Docket Nos. 05-337, 06-122, 07-135 at 9-10 (filed Oct. 23, 2008); Letter from Colin Sandy, Counsel, NECA, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, CC Docket No. 01-92 at 1 (filed Sept. 23, 2009); Letter from Tom Karalis, Fred Williamson & Associates, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 09-47, 09-51, 09-137, 10-66, CC Docket Nos. 09-45, 01-92 Attach. at 11 (filed Apr. 7, 2010).

[8] *See* SBC IP Communications, Inc. Petition for Limited Waiver of Section 52.15(g)(2)(i) of the Commission's Rules Regarding Access to Numbering Resources, CC Docket No. 99-200, at 2–3 (filed July 7, 2004) (SBCIS Waiver Petition).

[9] Facilities-based interconnected VoIP providers own and operate the broadband access communications infrastructure required to deliver VoIP services. They may provide retail VoIP services directly to residential and business customers or they may provide wholesale VoIP services to other businesses, including non-facilities-based VoIP providers that resell VoIP service to end users. *See* Local Telephone Competition: Status as of December 31, 2010, Industry Analysis and Technology Division, Wireline Competition Bureau, Federal Communications Commission (Oct. 2011), Figure 5 – Interconnected VoIP Subscribership by Reported Service Features as of December 31, 2010. Facilities-based VoIP customers do not need to subscribe to broadband Internet service for the VoIP service to function. Non-facilities-based "over-the-top" VoIP or "nomadic" VoIP is a service that is offered separately from the broadband Internet access service and can operate over any broadband connection.

[10] *See* SBCIS Waiver Petition at 3. To date, the Commission has attempted to minimize disadvantages associated with providing IP-based voice services relative to traditional, circuit-switched voice services by permitting such partnerships between VoIP providers and LECs. *See, e.g.*, *Connect America Fund, et al.*, WC Docket Nos. 10-90, et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 18026-27, para. 970 (2011) (*USF/ICC Transformation Order*) (permitting retail VoIP providers' carrier partners to charge intercarrier compensation charges for functions they and/or their retail VoIP provider partners perform to avoid disadvantaging providers with IP-based networks relative to providers with TDM-based networks), *pets. for review pending sub nom. In re: FCC 11-161*, No. 11-9900 (10th Cir. filed Dec. 8, 2011); *Time Warner Cable Request for Declaratory Ruling that Competitive Local Exchange Carriers May Obtain Interconnection Under Section 251 of the Communications Act of 1934, as Amended, to Provide Wholesale Telecommunications Services to VoIP Providers*, WC Docket No. 06-55, Memorandum Opinion and Order, 22 FCC Rcd 3513, 3519-20, para. 13 (Wireline Competition Bureau 2007) (permitting wholesale carriers to provide interconnection for VoIP provider customers facilitates the introduction of new technology and the availability of VoIP services).

[11] *See VoIP LNP Order*, 22 FCC Rcd at 19538, para. 14; *IP-Enabled Services*, WC Docket No. 04-36, Report and Order, 24 FCC Rcd 6039, 6041, para. 5 (2009) (*IP-Enabled Services Order*).

[12] The Commission did not classify VoIP services as "telecommunications services" or "information services" under the Communications Act, but instead conducted its analysis by considering the Commission's authority if VoIP services ultimately were classified as telecommunications services or alternatively, if they were classified as information services. *See Petition of Vonage Holdings Corporation for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, WC Docket No. 04-267, Memorandum Opinion and Order, 19 FCC Rcd 22404 (2004).

example, the Commission applied customer privacy protections to information held by VoIP providers,[13] adopted requirements for access to interconnected VoIP services by people with disabilities,[14] amended its rules to ensure that consumers could easily port local numbers to and from VoIP providers,[15] and required VoIP providers to notify consumers before discontinuing service.[16] To promote public safety, interconnected VoIP providers must supply 911 emergency calling capabilities to their customers,[17] must comply with the requirements of the Communications Assistance for Law Enforcement Act (CALEA) to ensure critical law enforcement access to VoIP calls,[18] and must report network outages.[19] The Commission also assesses universal service contributions from VoIP providers.[20]

9. In addition, under the Twenty-First Century Communications and Video Accessibility Act of 2010 (CVAA),[21] providers of interconnected VoIP and non-interconnected VoIP services must make their services available to people with disabilities.[22]

10. The Commission is considering in other contexts how to ensure that consumers of VoIP services receive appropriate protections.[23]

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[13] *See Implementation of the Telecommunications Act of 1996: Telecommunications Carriers' Use of Customer Proprietary Network Information and Other Customer Information; IP-Enabled Services*, CC Docket No. 96-115, WC Docket No. 04-36, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 6927, 6954–57, paras. 54–59 (2007) (*CPNI Order*), *aff'd sub nom. Nat'l Cable & Telecom. Ass'n v. FCC*, 555 F.3d 996 (D.C. Cir. 2009).

[14] *See IP-Enabled Services*, WC Docket No. 04-36, WT Docket No. 96-198, CG Docket No. 03-123, CC Docket No. 92-105, Report and Order, 22 FCC Rcd 11275, 11283–291, paras. 17–31 (2007) (*TRS Order*).

[15] *See VoIP LNP Order*, 22 FCC Rcd 19531, at 19548–49, para. 32 (2007). *See also* 47 C.F.R. § 52.34.

[16] *See* 47 C.F.R. § 63.71; *see also IP-Enabled Services Order*, 24 FCC Rcd at 6040, para. 2. The Commission's rules pertaining to emergency discontinuances have also been applied to interconnected VoIP services. *See IP-Enabled Services Order*, 24 FCC Rcd at 6047, para. 14, n.44; 47 C.F.R. § 63.63.

[17] The Commission imposed this obligation under section 251(e) of the Act, as well as under its Title I ancillary authority. *See VoIP 911 Order*, 20 FCC Rcd at10246, para. 1; 47 C.F.R. § 54.5.

[18] *See Communications Assistance for Law Enforcement Act and Broadband Access and Services*, ET Docket No. 04-295, RM-10865, First Report and Order and Further Notice of Proposed Rulemaking, 20 FCC Rcd 14989, 14991–92, para. 8 (2005) (*CALEA First Report and Order*), *aff'd*, *Am. Council on Educ. v. FCC*, 451 F.3d 226 (D.C. Cir. 2006).

[19] *See The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting To Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket No. 11-82, Report and Order, 27 FCC Rcd 2650, 2651, para. 1 (2012).

[20] *See Universal Service Contribution Methodology*, WC Docket No. 06-122; CC Docket Nos. 96-45, 98-171, 90-571, 92-237; NSD File No. L-00-72; CC Docket Nos. 99-200, 95-116, 98-170; WC Docket No. 04-36, Report and Order and Notice of Proposed Rulemaking, 21 FCC Rcd 7518, 7538–43, paras. 38–49 (2006) (*2006 Interim Contribution Methodology Order*), *aff'd in part*, *vacated in part*, *Vonage Holdings Corp. v. FCC*, 489 F.3d 1232, 1244 (D.C. Cir. 2007).

[21] Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-260, 124 Stat. 2751 (2010) (as codified in various sections of Title 47 of the United Stated Code) (CVAA); *see also* Amendment of Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-265, 124 Stat. 2795 (2010) (making technical corrections to the CVAA).

[22] Section 3(36) of the Act, as added by the CVAA, defines "non-interconnected VoIP service" as a service that "(i) enables real-time voice communications that originate from or terminate to the user's location using Internet protocol or any successor protocol; and (ii) requires Internet protocol compatible customer premises equipment" and "does not include any service that is an interconnected VoIP service." 47 U.S.C. § 153(36).

B. Petitions for Direct Access to Telephone Numbers

1. SBCIS Petition for Direct Access

11. On July 7, 2004, SBC Internet Services, Inc. (SBCIS)[24] requested a limited waiver of section 52.15(g)(2)(i) of our rules.[25] SBCIS's petition asserted its intention to use numbers to deploy IP-enabled services, including VoIP services, on a commercial basis to residential and business customers.[26] SBCIS limited its waiver request in duration until the Commission adopts final numbering rules in the *IP-Enabled Services* proceeding.[27] SBCIS asserted that a limited waiver of our numbering rules would allow it to deploy innovative new services using a more efficient means of interconnection between IP networks and the PSTN.[28]

12. On February 1, 2005, the Commission granted SBCIS's waiver request for direct access to NANP numbers for use in deploying IP-enabled services, including VoIP services, on a commercial basis to residential and business customers, subject to the following conditions: (1) SBCIS is required to comply with the Commission's numbering utilization and optimization requirements, numbering authority delegated to the states, and industry guidelines and practices, including filing the Numbering

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[23] *See, e.g.*, *Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission's Rules; Wireless E911 Location Accuracy Requirements; E911 Requirements for IP-Enabled Service Providers*, GN Docket No. 11-117, PS Docket No. 07-114, WC Docket No. 05-196, Notice of Proposed Rulemaking, Third Report and Order, and Second Further Notice of Proposed Rulemaking, 27 FCC Rcd 7113, 7114, paras. 2-3 (2011) (proposing measures to improve 911 availability and location determination for users of VoIP by applying the Commission's 911 rules to "outbound-only" VoIP services and developing a framework to ensure that all covered VoIP providers can provide automatic location information for VoIP 911 calls); *Empowering Consumers to Prevent and Detect Billing for Unauthorized Charges ("Cramming"); Consumer Information and Disclosure; Truth-in-Billing and Billing Format*, CG Docket Nos. 11-116, 09-158, CC Docket No. 98-170, Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 4436, 4485-89, paras. 136-149 (2012) (seeking comment on whether the Commission should adopt rules to prevent and detect the placement of unauthorized charges on VoIP telephone bills, an unlawful and fraudulent practice commonly known as "cramming"); *Modernizing the FCC Form 477 Data Program; Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership; Service Quality, Customer Satisfaction, Infrastructure and Operating Data Gathering; Review of Wireline Competition Bureau Data Practices*, WC Docket Nos. 11-10, 07-38, 08-190, 10-132, Notice of Proposed Rulemaking, 26 FCC Rcd 1508, 1509-10, paras. 1-2 (2011) (2011 *Data Gathering NPRM*) (seeking comment on whether and how to reform the Form 477 data program to improve the Commission's ability to carry out its statutory duties, while streamlining and minimizing the overall costs of the program, including the burdens imposed on service providers that are required to file this form, such as interconnected VoIP providers).

[24] The entity requesting the waiver was SBC IP Communications, Inc. (SBCIP), an information service provider affiliate of SBC Communications, Inc. On January 27, 2005, SBC notified the Commission that SBCIP had been consolidated into another SBC affiliate, SBC Internet Services, Inc. (SBCIS), effective December 31, 2004. *See* Letter to Marlene H. Dortch, Secretary, Federal Communications Commission, from Jack Zinman, General Attorney, SBC Telecommunications, Inc. (Jan. 25, 2005). Accordingly, in this Order we refer to SBCIS instead of SBCIP.

[25] *See* SBCIS Waiver Petition.

[26] *See id.* at 1.

[27] *IP-Enabled Services*, WC Docket No. 04-36, Notice of Proposed Rulemaking, 19 FCC Rcd 4863 (2004) (*IP-Enabled Services NPRM*). In the *IP-Enabled Services NPRM*, the Commission sought comment on whether any action relating to numbers is desirable to facilitate or at least not impede the growth of IP-enabled services, while at the same time continuing to maximize the use and life of numbers in the North American Numbering Plan. *Id.* at 4914, para. 76.

[28] SBCIS Waiver Petition at 1.

Resource Utilization and Forecast (NRUF) Report;[29] (2) SBCIS is required to file requests for numbers with the Commission and the relevant state commission at least 30 days before requesting numbers from the number administrators;[30] (3) SBCIS is required to comply with the "facilities readiness" requirement as set forth in section 52.15(g)(2)(ii) of the rules;[31] and (4) SBCIS is responsible for processing port requests directly rather than going through a LEC.[32] The Commission stated that, to the extent other entities sought similar relief, it would grant such relief to a comparable extent.[33] In addition, the Commission asked the North American Numbering Council (NANC) to review whether and how our numbering rules should be modified to allow IP-enabled service providers access to numbers in a manner consistent with the Commission's numbering optimization policies.[34]

2. Subsequent Petitions for Direct Access

13. Between February 2005 and August 2006, Vonage and other companies filed requests for relief similar to the relief provided in the *SBCIS Waiver Order*.[35] On March 8, 2011, Vonage renewed its request, asserting that direct access to numbers will help it deploy innovative new services and transition to an all IP network by enabling Vonage to implement IP-to-IP interconnection that integrates services relying on PSTN numbers.[36] Vonage agrees to adhere to the conditions imposed in the *SBCIS Order*, and maintains that its request is consistent with the Commission's approach to numbering and porting obligations for interconnected VoIP providers.[37] On November 11, 2011, Vonage supplemented its request and offered commitments that could serve as additional conditions if the Commission granted the requested waiver.[38] On December 27, 2011, the Wireline Competition Bureau (Bureau) released a Public

[29] *See* 47 C.F.R. § 52.15(f)(3) (requiring carriers to file NRUF Reports). The NRUF Report is used by the Commission, state regulatory commissions, and the NANPA to monitor numbering utilization by carriers and to project the dates of area code and NANP exhaust. Carriers are required to file their reports with the NANPA by February 1 and August 1 of each year. *See* 47 C.F.R. § 52.15(f)(6).

[30] The number administrators include the NANPA and the PA.

[31] Section 52.15(g)(2)(ii) of the Commission's rules requires that an applicant for initial numbering resources is or will be capable of providing service within sixty (60) days of the activation date of the numbering resources. 47 C.F.R. § 52.15(g)(2)(ii).

[32] *Administration of the North American Numbering Plan*, CC Docket No. 99-200, Order, 20 FCC Rcd 2957, 2961–62, paras. 9–10 (2005) (*SBCIS Waiver Order*). The waiver is in effect until the Commission adopts final numbering rules for IP-enabled services. *Id*. at 2963, para. 11.

[33] *Id.* at 2959, para. 4.

[34] *Id.* at 2962, para. 11. On August 3, 2005, the NANC submitted a Report and Recommendation entitled VoIP Providers' Access Requirements for NANP Resource Assignments. *See* Letter from Robert C. Atkinson, NANC Chair, to Mr. Thomas Navin, Chief, Wireline Competition Bureau (filed Aug. 3, 2005) available at http://www.fcc.gov/encyclopedia/2005-nanc-correspondence.

[35] Between February 2005 and August 2006**,** the following entities filed petitions for waiver of section 52.15(g)(2)(ii): Constant Touch Communications; CoreComm-Voyager, Inc.; Dialpad Communications, Inc.; Frontier Communications of America, Inc.; Net2Phone Inc.; Nuvio Corporation; Qwest Communications Corporation; UniPoint Enhanced Services d/b/a PointOne; RNK Inc.; VoEX, Inc.; Vonage Holdings Corporation; and WilTel Communications, LLC. More recently the following entities have filed petitions for waiver of section 52.15(g)(2)(ii): SmartEdgeNet, LLC; Millicorp, LLC; and Bandwidth.com, Inc.

[36] Letter from Brita D. Strandberg, Counsel to Vonage Holdings Corp., to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200 (filed Mar. 8, 2011) (Vonage Renewal).

[37] Vonage Renewal at 1.

[38] Vonage offered to commit to the following: (1) maintain at least a 65 percent number utilization rate across its telephone number inventory; (2) offer IP interconnection to other carriers and service providers; (3) comply with the Commission's number administration requirements and ensure appropriate telephone number management; and (4)

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Notice to refresh the record on Vonage's petition and on other pending petitions for waiver of section 52.15(g)(2)(ii).[39] A number of parties filed comments in response.[40] Twilio and VoN support direct access to numbers for VoIP providers,[41] while AT&T and various state commissions offer support, subject to the conditions imposed in the *SBCIS Waiver Order*.[42] The state commissions also encourage the Commission to impose additional conditions to promote efficient number utilization and enhance their ability to oversee number resources effectively.[43] CenturyLink supports the pending request of its wholly-owned subsidiary, now known as Qwest Communications Company, LLC (QCC/VoIP) for direct access, and Neutral Tandem supports Vonage's request. CLECs oppose Vonage's request, arguing that Vonage does not demonstrate that special circumstances warrant a deviation from the general rule or that deviation would serve the public interest.[44] They maintain that issues such as call routing and interconnection should be addressed before granting non-carrier VoIP providers direct access to numbers.[45] Similarly, NCTA and NTCA encourage the Commission to commence a rulemaking to examine the issues raised by granting VoIP providers direct access to telephone numbers.[46] In related *ex*

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provide the Commission with a migration plan for its transition to direct access to numbers within 90 days of commencing the migration, and every 90 days thereafter for 18 months. Letter from Brita D. Strandberg, Counsel to Vonage Holdings Corp., to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200 (filed Nov. 11, 2011) (Vonage Supplement).

[39] *Wireline Competition Bureau Seeks to Refresh Record on Petitions for Waiver of Commission's Rules Regarding Access to Numbering Resources*, CC Docket No. 99-200, Public Notice, 26 FCC Rcd 17039 (2011). On January 6, 2012, the National Association of Regulatory Utility Commissioners (NARUC) sought an extension of the deadline to respond to the Public Notice. On January 9, 2012, the Bureau granted a 14-day extension of the comment deadline. *Numbering Resource Optimization*, CC Docket No. 99-200, Order, 27 FCC Rcd 193 (2012).

[40] The following parties filed comments: AT&T Inc. (AT&T); Bandwidth.com, Inc., (Bandwidth.com); Hypercube, LLC, Level 3 Communications, LLC (Level 3), Pac-West Telecomm, Inc. and COMPTEL (CLEC Participants); California Public Utilities Commission (California PUC); CenturyLink; Idaho Public Utilities Commission (Idaho PUC); National Cable & Telecommunications Association (NCTA); National Telecommunications Cooperative Association (NTCA); Nebraska Public Service Commission (Nebraska PSC); Neutral Tandem; Public Service Commission of Wisconsin (Wisconsin PSC); Pennsylvania Public Utility Commission (PaPUC); Twilio Inc. (Twilio); Voice on the Net Coalition (VoN); and Vonage.

[41] Twilio Comments at 1; VoN Comments at 1.

[42] AT&T Comments at 1–2; California PUC Comments at 4; Wisconsin PSC Comments at 1–2; Nebraska PSC Comments at 2; Letter from Paul Kjellander, President, Idaho Public Utilities Commission, to Marlene H. Dortch, Federal Communications Commission, CC Docket No. 99-200 *et al.* (filed Jan. 26, 2012) (Idaho PUC Jan. 26 *Ex Parte* Letter).

[43] Specifically, the California PUC proposes that the Commission give states the right to determine which rate centers are available to each VoIP provider; that VoIP providers be required to have a minimum of 75 percent utilization before obtaining additional numbers; that VoIP providers be required to expand number porting beyond rate center boundaries; and that all calls to VoIP providers be deemed local. California PUC Comments at 6–10. The Wisconsin PSC proposes that the Commission require petitioners to provide the relevant state commission with regulatory and numbering contacts when the petitioners first request numbers in that state; consolidate and report all numbers under their own unique Operating Company Number (OCN); provide customers with the ability to access all N11 numbers in use in a state; obtain numbers from pooling rate centers; and maintain the original rate center designation of all numbers in their inventories as wireline and wireless providers currently do. Wisconsin PSC Comments at 4–7; *see also* Nebraska PSC Comments at 2; Idaho PUC Jan. 26 *Ex Parte* Letter.

[44] CLEC Participants Comments at 6–8.

[45] *Id.* at 8.

[46] NCTA Comments at 1–2; NTCA Comments at 1–2.

parte filings, Verizon supports direct access with conditions;[47] the PaPUC opposes the Vonage waiver request;[48] and RNK Communications, NARUC, and the Rural Broadband Alliance assert that the Commission should address the issue through the rulemaking process.[49]

14. Vonage identifies a number of benefits that it claims would flow from direct access to numbers. It asserts that direct access to numbers will improve its network reliability by enabling Vonage to build additional redundancy into its network,[50] and will improve the states' ability to monitor and manage number utilization.[51] Vonage also says that moving to IP interconnection will reduce its costs by allowing Vonage to reduce its reliance on wholesale third-party networks.[52] Vonage also asserts that other carriers have refused to route Vonage traffic directly to Vonage because industry routing databases like the Number Portability Administration Center (NPAC) and Local Exchange Routing Guide (LERG)[53] associate Vonage telephone numbers with Vonage's underlying carriers, rather than with Vonage. Vonage contends that having direct access to numbers will remove this barrier to IP interconnection and facilitate IP exchange of Vonage traffic.[54] According to Vonage, facilitating such exchange of traffic will dramatically improve the quality of its customers' calls by giving Vonage greater control over its calls; avoid unnecessary Time Division Multiplexing and IP handoffs; provide Vonage greater visibility into

[47] Letter from Ann Berkowitz, Director – Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200 *et al.* (filed June 8, 2012).

[48] PaPUC Comments at 7–9.

[49] Letter from Michael Tenore, Interim General Counsel, Vice President Regulatory Affairs, RNK Communications, to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200 (filed Dec. 22, 2011); Letter from James Bradford Ramsay, General Counsel, National Association of Regulatory Utility Commissioners, to the Honorable Julius Genachowski, FCC Chairman, the Honorable Robert McDowell, FCC Commissioner, and the Honorable Mignon Clyburn, FCC Commissioner, Federal Communications Commission, CC Docket No. 99-200 (filed Mar. 30, 2012) (NARUC March 30 *Ex Parte* Letter); Letter from Stephen G. Kraskin, Communications Advisory Counsel LLC, to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200 *et al.* (filed July 2, 2012).

[50] *See* Vonage Comments at 6 (explaining that direct access will improve the redundancy of its networks by adding direct IP interconnections in addition to existing CLEC inbound trunks, thereby reducing Vonage's reliance on particular CLEC trunks to handle inbound traffic and reducing the risk that traffic will be affected by CLEC trunk outages).

[51] Letter from Brita D. Strandberg, Counsel to Vonage Holdings Corp., to Marlene H. Dortch, Secretary, FCC, at 2 (filed Jul. 31, 2012) (Vonage July 31 *Ex Parte* Letter).

[52] Vonage July Ex Parte Letter at 2. Vonage also notes that it seeks bill-and-keep arrangements with IP interconnection partners and that grant of its request will serve the public interest by facilitating the transition to those arrangements.

[53] The NPAC consists of regional databases that contain the necessary routing information on ported telephone numbers and facilitate the updating of the routing databases of all subtending service providers in the portability area. See *NRO First Report and Order*, 15 FCC Rcd at 7623, n.242. The LERG is an industry guide generally used by carriers in their network planning and engineering and numbering administration. It contains information regarding all North American central offices and end offices. *AT&T Corp. v. Alpine Communications, LLC, Clear Lake Independent Telephone Co., Mutual Telephone Co. of Sioux Center, Iowa, Preston Telephone Co., and Winnebago Cooperative Telephone Association*, EB-12-MD-003, Memorandum Opinion and Order, FCC 12-110 (rel. Sept. 11, 2012).

[54] Vonage July 31 *Ex Parte* Letter at 1.

call routing; and simplify troubleshooting.[55] Vonage also maintains that having direct access to numbers would improve its provision of call features to its customers.[56]

15. Since the Bureau issued the Public Notice to refresh the record, three additional VoIP providers, SmartEdgeNet, LLC, Millicorp, LLC, and Bandwidth.com, have filed waivers to obtain direct access to NANP numbers.[57] SEN asserts that direct access to numbers will, as stated by the Commission in the *SBCIS Waiver Order*, help "expedite the implementation of IP-enabled services that interconnect to the PSTN;" enable it to "deploy innovative new services and encourage the rapid deployment of new technologies and advanced services that benefit American consumers;" and facilitate SEN's ability to "efficiently interconnect to the PSTN."[58] Millicorp maintains that direct access to telephone numbers will prevent it from having to purchase Primary Rate Interface services from CLECs simply to obtain numbers. By eliminating this added cost, Millicorp claims that it could increase its ability to compete with traditional telephony providers and decrease the cost of providing VoIP services to customers.[59] Bandwidth.com claims that it "cannot effectively compete if the Commission provides its competitors all the regulatory rights but none of the obligations of regulated carriers."[60] The Commission sought comment on those petitions,[61] and received comment.[62]

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[55] *Id.* at 1–2. Vonage explains that with IP interconnection, it also has the opportunity to work directly with connected providers to implement high definition (HD) audio codecs to improve the quality of voice service and offer its customers end-to-end HD voice.

[56] According to Vonage, direct access to numbers would enable it to offer customers new and improved features that depend on end-to-end IP transport as the industry and technology develop. In addition, direct access to numbers would enable it to more efficiently offer features such as caller ID and Short Message Service (SMS) that require population in the call routing databases of certain call signaling fields. Vonage says it can only provide these features today with the consent and cooperation of its numbering partners and that obtaining that consent and cooperation can unnecessarily delay deployment of these customer-friendly features. Vonage July 31 *Ex Parte* Letter at 2 (citing *SBCIS Waiver Order*, 20 FCC Rcd at 2960, para. 6).

[57] *See* SmartEdgeNet, LLC Petition for Limited Waiver of Section 52.15(g)(2)(i) of the Commission's Rules Regarding Numbering Resources, CC Docket No. 99-200 (filed Mar. 6, 2012) (SEN Petition); Millicorp Petition for Limited Waiver of Section 52.15(g)(2)(i) of the Commission's Rules Regarding Numbering Resources, CC Docket No. 99-200 (filed Mar. 14, 2012) (Millicorp Petition); Bandwidth.com, Inc. Petition for Limited Waiver of Section 52.15(g)(2)(i) of the Commission's Rules Regarding Access to Numbering Resources, CC Docket No. 99-200 (filed June 13, 2012) (Bandwidth.com Petition). Petitioners assert that a waiver of section 52.15(g)(2)(i) will facilitate the development and deployment of innovative new services, promote innovation, foster competition, and encourage the deployment of broadband infrastructure by facilitating the administration of IP-enabled services that interconnect efficiently to the PSTN.

[58] SEN Petition at 5.

[59] Millicorp Petition at 3.

[60] Bandwidth.com Petition at 8.

[61] *Wireline Competition Bureau Seeks Comment on SmartEdgeNet, LLC and Millicorp, LLC Petitions for Limited Waiver of Commission's Rules Regarding Access to Telephone Numbers*, CC Docket No. 99-200, Public Notice, 27 FCC Rcd 4188 (2012); *Wireline Competition Bureau Seeks Comment on Bandwidth.com, Inc. Petition for Limited Waiver of Commission's Rules Regarding Access to Telephone Numbers*, CC Docket No. 99-200, Public Notice, DA 12-1288 (2012).

[62] Bandwidth.com, Level 3, and COMPTEL (Joint Commenters); California PUC; and Securus Technologies, Inc. (Securus) filed comments in response to the April 14, 2012 Public Notice. Reply comments were filed by the Joint Commenters, Millicorp, and SEN. Commenters opposing the petitions assert that such a waiver would run counter to the public interest and that the Commission should act through a rulemaking. Joint Commenters Comments at 2–5. They argue that granting non-carriers direct access to telephone numbers is fundamentally unfair to certified carriers who have duly complied with existing regulations, and that such access would exacerbate the problem of number exhaust. Joint Commenters Comments at 11–12. The Joint Commenters also raise the concern that the

(continued . . .)

III. NOTICE OF PROPOSED RULEMAKING

A. Direct Access to Numbers by Interconnected VoIP Providers

16. As part of our focused ongoing effort to modernize our rules during a period of significant technology transition, we propose to modify our rules to allow interconnected VoIP providers to obtain numbers directly from the number administrators, subject to a variety of requirements to ensure continued network integrity, allow oversight and enforcement of our numbering regulations, and protect the public interest. We expect that granting VoIP providers direct access to numbers—subject to the number utilization provisions we propose below—will enhance the effectiveness of our number conservation efforts, and will reduce costs and inefficiencies that arise today through the mandatory use of carrier-partners. We anticipate that these proposed rule changes will encourage providers to develop and deploy innovative new technologies and services that benefit consumers.

17. We invite general comment on permitting interconnected VoIP providers to obtain phone numbers directly from the number administrators, as opposed to through carrier partners. Do commenters agree that allowing interconnected VoIP providers direct access to numbers will spur the introduction of innovative new technologies and services, increase efficiency, and facilitate increased choices for American consumers? Are there benefits to requiring carrier-partners? Are there alternate ways to accomplish these goals? We ask commenters who disagree with our proposal to address other ways the Commission's numbering policies can be utilized to achieve the benefits outlined in paragraph 14, *supra*.

18. We note that in October 2010, the Twenty-First Century Communications and Video Accessibility Act (CVAA) became law.[63] The CVAA codified the Commission's definition of "interconnected VoIP service" contained in Section 9.3 of the Commission's rules, "as such section may be amended from time to time."[64] We seek comment on whether any amendments to the Commission's definition of interconnected VoIP service are needed to allow direct access to numbers by interconnected VoIP providers. If so, should the amendments apply to all of the Commission's requirements that involve interconnected VoIP providers or should the Commission use the amended definition of interconnected VoIP solely for purposes of number administration?

19. In the following sections, we seek comment on: the type of documentation that interconnected VoIP providers should provide in order to obtain numbers; the numbering administration requirements that should apply to such providers; and enforcement of our numbering rules. In subsequent parts, we address commenters' concerns raised in the record on the Vonage petition, other entities that potentially could gain access to numbers, and our legal authority for imposing proposed numbering administration and other requirements on interconnected VoIP providers.

1. Documentation Required to Obtain Numbers

20. Under section 52.15(g)(2)(i) of the rules, an applicant for telephone numbers must provide to the number administrator evidence of the applicant's authority to provide service, such as a license issued by the Commission or a certificate of public convenience and necessity (CPCN) issued by a

(Continued from previous page)
petitioners will utilize transport facilities and carrier switching to terminate their traffic without paying the same intercarrier compensation that carriers currently pay. Joint Commenters Comments at 12.

[63] Twenty-First Century Communications and Video Accessibility Act of 2010, Pub. L. No. 111-260, 124 Stat. 2751 (amending sections 3, 255, 303, 330, 710, and 713 of the Communications Act, and adding sections 615c and 715-19, codified at 47 U.S.C. §§ 153, 225, 303, 330, 610, 613, 615c, 616-20).

[64] Pub. L. 111-260, § 101, adding definition of "interconnected VoIP service" to Section 3 of the Act, codified at 47 U.S.C. § 153(25). The Senate Report reiterates that this term "means the same as it does in title 47 of the Code of Federal Regulations, as such title may be amended from time to time." S. Rep. No. 111–386, at 6 (2010) ("Senate Report"). The House Report is silent on this issue. H.R. Rep. No. 111-563 (2010) ("House Report").

state regulatory commission. Interconnected VoIP providers may be unable to provide the evidence required by this rule because states often refuse to certify VoIP providers.[65] Also, the Commission has preempted state entry regulation for VoIP to the extent that it interferes with important federal objectives.[66] If any entity, including a telecommunications service provider, is unable to obtain a CPCN—perhaps because of state deregulation of telecommunications services—what should that entity be required to provide the numbering administrator as evidence of authority to provide service, in order to obtain numbers? The Bureau recognized a similar issue when it established a permanent solution for the administration of Pseudo Automatic Number Identification (p-ANI) codes, which are non-dialable numbers used by entities to provide E911 capability.[67] After the Commission required interconnected VoIP providers to comply with the same E911 requirements as carriers, the Bureau recognized that VoIP providers would not be able to provide the same documentation as certificated carriers to obtain the non-dialable numbers necessary to provide E911 service.[68] Therefore, the Bureau allowed the Routing Numbering Authority, the administrator that disseminates p-ANI codes, to accept documentation different than that required by certificated carriers.[69] The Bureau permitted this documentation to be in the form of pages 2 and 36 of the FCC Form 477, which collects information about broadband connections to end user locations, wired and wireless local telephone services, and interconnected VoIP services, in individual states. Pages 2 and 36 currently show that the entity submitting the form provides interconnected VoIP service and in which states it provides those services.[70]

21. We seek comment on what, if any, documentation interconnected VoIP providers should be required to provide to the number administrator to receive numbers. Should interconnected VoIP providers be required to demonstrate that they do or plan to offer service in a particular geographic area in order to receive numbers associated with that area? Would data regarding the provision of interconnected

[65] *See* Letter from Randall B. Lowe, Counsel to SmartEdgeNet, to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200 (filed Jun. 26, 2012) (stating that at least 24 jurisdictions have precluded their utility commissions from regulating VoIP service, including issuing CPCNs).

[66] *See Petition of Vonage Holdings Corporation for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, WC Docket No. 04-267, Memorandum Opinion and Order, 19 FCC Rcd 22404 (2004).

[67] A p-ANI is a number, consisting of the same amount of digits as Automatic Number Identification (ANI), that is not a North American Numbering Plan (NANP) telephone directory number and that may be used in place of an ANI to convey special meaning to the selective router, public safety answering point, and other elements of the 911 system. *See VoIP 911 Order*, 20 FCC Rcd at 10252–53, para. 17; 47 C.F.R. § 9.3. The special meaning assigned to the pseudo-ANI is determined by agreements, as necessary, between the system originating the call, intermediate systems handling and routing the call, and the destination system. *See* 47 C.F.R. § 20.3.

[68] The Bureau's action fulfilled obligations stemming from the New and Emerging Technologies 911 Improvement Act of 2008, Pub. L. No. 110-283, 122 Stat. 2620 (2008) (NET 911 Act) (amending Wireless Communications and Public Safety Act of 1999, Pub. L. No. 106-81, 113 Stat. 1286 (1999) (Wireless 911 Act)). In implementing the Net 911 Act, the Commission determined that p-ANIs are "capabilities" under that Act, and that interconnected VoIP providers are entitled to access to these capabilities from any entity that owns or controls such capabilities. *See Implementation of the NET 911 Improvement Act of 2008*, WC Docket No. 08-171, Report and Order, 23 FCC Rcd 15884 (2008) (*NET 911 Order*).; *see also* 47 C.F.R. § 9.7.

[69] To ensure continued compliance with Part 52 of the Commission's rules and with the NET 911 Act, an interconnected VoIP provider must demonstrate that it provides VoIP service and must identify the jurisdiction(s) in which it provides service. Letter from Sharon E. Gillett, Chief, Wireline Competition Bureau, Federal Communications Commission, to Betty Ann Kane, Chair, North American Numbering Council and Ms. Amy L. Putnam, Director, Number Pooling Services, Neustar, Inc. (Dec. 14, 2010) (*Permanent RNA Letter*).

[70] *Permanent RNA Letter* at 3. As noted above, the Commission is currently considering whether and how to reform the Form 477 data program to improve the Commission's ability to carry out its statutory duties. *See supra* note 23; *2011 Data Gathering NPRM*, 26 FCC Rcd 1508. As such, the data collection regarding provision of interconnected VoIP service on Form 477 could be modified.

VoIP services from FCC Form 477 serve this role? If we required VoIP providers to make this demonstration, are there 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? For example, some states assert that they lack jurisdiction to certify wireless providers as Eligible Telecommunications Carriers (ETCs), so the Commission has developed a process to certify wireless providers in those circumstances.[71] Should we adopt a similar process whereby the Commission will provide the certification required by section 52.15(g)(2)(i), but only to the extent a state commission lacks authority to do so or represents that it has a policy of not doing so? For those state commissions that lack the authority to provide certification for interconnected VoIP service, should the Commission adopt a rule whereby those states will be given a formal opportunity to object to the assignment of numbers to these providers? Should the certification requirements be different for providers of facilities-based interconnected VoIP, which is typically offered in a clearly defined geographic area, and over-the-top interconnected VoIP, which can be used anywhere there is a broadband connection? In either case, what should be shown, if anything to receive a certification? Could such a certification also serve the purpose of permitting the Commission to exercise forfeiture authority without first issuing a citation?[72] What costs and burdens would rules resulting from this requirement impose upon small entities and how can they be ameliorated? Are there any other issues or significant alternatives that the Commission should consider to ease the burden on small entities?

2. Numbering Administration Requirements for Interconnected VoIP Providers

22. *Efficient Number Utilization*. As part of the efficient administration of telephone numbers, telecommunications carriers must comply with a variety of Commission and state number optimization requirements and are expected to follow industry guidelines. In the *SBCIS Waiver Order*, the Commission imposed these requirements on SBCIS as a condition of its authorization to obtain telephone numbers directly from the number administrators.[73] We propose to impose these same requirements—the number utilization and optimization requirements and industry guidelines and practices that apply to carriers—on interconnected VoIP providers that obtain direct access to numbers.[74] These requirements include, *inter alia*, adhering to the numbering authority delegated to state commissions for access to data and reclamation activities, and filing NRUF Reports.[75] Requiring interconnected VoIP providers that obtain numbers directly from the numbering administrators to comply with the same numbering requirements and industry guidelines as carriers will help alleviate many concerns with numbering exhaust. The NRUF reporting requirement, in particular, will enable the Commission to more effectively monitor the VoIP providers' number utilization. Today, VoIP providers obtain numbers through competitive LEC partners. Section 52.15(f)(1)(v) of the Commission's rules requires these numbers to be reported as "intermediate numbers" on the LEC's NRUF report until the numbers have been assigned to

[71] *See* 47 C.F.R. § 54.202; *see also Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order, 20 FCC Rcd 6371 (2005).

[72] *See infra* paras. 36-39 (discussing enforcement of the Commission's numbering rules against interconnected VoIP providers).

[73] *SBCIS Waiver Order*, 20 FCC Rcd at 2959, para. 4.

[74] *See* 47 C.F.R. Part 52. Specifically, section 52.15(f)(7) provides state commissions access to data reported to the NANPA provided they have appropriate protections in place to prevent public disclosure of disaggregated, carrier-specific data. 47 C.F.R. § 52.15(f)(7). Section 52.15(i) details the role of the state commissions in the reclamation of numbering resources. 47 C.F.R. § 52.15(i). Section 52.15(f)(6) requires reporting carriers to file usage forecast and utilization reports on a semi-annual basis. 47 C.F.R. § 52.15(f)(6).

[75] *See supra* note 29.

an end user, then the numbers may be reported on the NRUF as "assigned."[76] In practice, the numbers are often identified in the LEC partners' NRUF reports as "assigned," whether or not the VoIP provider has an end-user customer for the numbers.[77] There is no way to know what portion of the numbers assigned to VoIP providers is actually "in use." By imposing the number utilization and reporting requirements directly on VoIP providers, we expect to have a significantly more accurate assessment of number utilization and be better able to anticipate, and limit, number exhaust. We seek comment on these requirements and on their efficacy in conserving numbers and protecting consumers.

23. One reason numbers that interconnected VoIP providers obtain from CLECs are not reported as "intermediate numbers" is that some reporting carriers classify interconnected VoIP providers as the "end user," because the interconnected VoIP provider is the customer of the wholesale carrier. We seek comment on how we could revise our definition of "intermediate numbers" or "assigned numbers" to ensure consistency among all reporting providers. For example, should the Commission define the term "end user" to include use of the number by the retail end user, for purposes of identifying "intermediate numbers" when reporting utilization? Or would it be easier to track these numbers if the definition simply includes the requirement that the number is activated or in use?

24. Several commenters are concerned that allowing interconnected VoIP providers direct access to numbers will accelerate telephone number exhaust and promote waste of this valuable resource. They are concerned, in particular, that interconnected VoIP providers will request Location Routing Numbers (LRNs) in rural rate centers, which will strand many unused numbers.[78] They explain that in order to obtain an LRN, which is required for carriers to perform several important functions including call routing, number pooling, and porting functions, service providers must become Code Holders in each Local Access and Transport Area (LATA) in which they seek to operate.[79] This in turn requires each provider requesting an LRN to obtain 10,000 numbers in each LATA.[80] When these providers request numbers for LRNs in rural, lightly-populated rate centers, they are assigned blocks of additional numbers that are unlikely to ever be assigned to end-users.[81] Some commenters posit that if interconnected VoIP providers are allowed direct access to numbers this problem will only intensify, stranding tens of thousands of numbers and leading to waste and resource exhaustion.[82]

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[76] Section 52.15(f)(1)(v) defines "intermediate numbers" as numbers that are available for use by another telecommunications carrier or non-carrier entity for the purpose of providing telecommunications service to an end user or customer. 47 C.F.R. § 52.15(f)(1)(v).

[77] Letter from F. Anne Ross, Staff Attorney, New Hampshire Public Utilities Commission to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 08-154 (filed August 8, 2008).

[78] California PUC Comments at 8; *see also* CLEC Participants July 19 *Ex Parte* Letter at 2; NARUC July 19 *Ex Parte* Letter at 4; Letter from Erin Boone, Senior Corporate Counsel, Federal Regulatory Affairs, Level 3 Communications, LLC to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200, at 4 (filed June 29, 2012) (Level 3 Jun. 29 *Ex Parte* Letter); Letter from Greg Rogers, Deputy General Counsel, Bandwidth.com, to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200, at 2 (filed June 19, 2012) (Bandwidth.com Jun. 19 *Ex Parte* Letter); CLEC Participants Comments at 10–11.

[79] Commenters are correct that an interconnected VoIP provider that obtains direct access to numbers must become a code holder in any LATA where it provides service. *See* CLEC Participants Comments at 10–11. In those NPAs subject to pooling, an interconnected VoIP provider must adhere to the same requirements for number pooling as any other service provider. Therefore, once it establishes an LRN in a LATA, an interconnected VoIP provider must return to the Pooling Administrator any unused blocks of numbers from that code for use by other service providers.

[80] *See* Letter from Greg Rogers, Deputy General Counsel, Bandwidth.com, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200, at 2 (filed June 11, 2012); California PUC Comments at 8.

[81] California PUC Comments at 8.

[82] *Id*. at 9; *see also* CLEC Participants July 19 *Ex Parte* Letter at 2; NARUC July 19 *Ex Parte* Letter at 4; Level 3 Jun. 29 *Ex Parte* Letter at 4; Bandwidth.com Jun. 19 *Ex Parte* Letter at 2; CLEC Participants Comments at 10–11.

25. To address this concern, the state commissions of Wisconsin, Nebraska, and Idaho suggest a system in which interconnected VoIP providers may obtain numbers only from rate centers subject to number pooling.[83] Number pooling means that numbers are assigned in blocks of 1,000 rather than 10,000. These commenters maintain that because many rural rate centers are not subject to pooling requirements, an influx of additional number requests at such centers could accelerate central office code assignments, strand large amounts of numbers, and contribute to area code exhaust.[84] By restricting access to rate centers that are subject to pooling requirements, these commenters assert that state commissions could funnel numbering requests to centers able to distribute smaller blocks of numbers, thereby reducing waste.

26. We propose that interconnected VoIP providers may 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. This proposal should address the concerns of state commissions in Wisconsin, Nebraska, and Idaho without restricting states that wish to allow access in non-pooling rate centers. We seek comment on this proposal, as well as any concerns it may raise. Does it make sense to differentiate between traditional carriers and interconnected VoIP providers in terms of the rate centers from which they can request numbers? For example, is it important for VoIP providers to obtain local telephone numbers that correspond to the location of the subscriber? And does that importance differ depending on whether the VoIP provider is nomadic or facilities-based?[85] Is such an approach advantageous or problematic from a technological, policy, or legal standpoint? Does this approach raise anti-competitive or public policy concerns? How will this approach affect existing VoIP customers with numbers not in these rate centers, if at all? Will VoIP providers continue to purchase services from CLECs to serve existing customers with numbers not in these rate centers? Would this approach put consumers in rate centers not subject to pooling at a disadvantage by limiting their access to innovative services? What are the projected costs and benefits associated with such an approach from a monetary, administrative, technological, or policy standpoint?

27. We seek comment on whether this approach is appropriately tailored to address the problems of waste and number exhaust. Are there any alternative measures that would be more effective in dealing with these issues? For example, the California PUC proposes that the Commission grant states the right to specify which rate centers are available for VoIP number assignment.[86] It claims that this proposal 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. According to the California PUC, this would mitigate the problem of number waste without harming requesting providers, some of which have no geographic limitations on the location of their numbers and therefore do not require LRNs from specific rural rate centers.[87] We seek comment, in particular, on this proposal.

28. In conjunction with these recommendations, the California PUC further proposes a system in which all calls to VoIP providers are deemed to be local calls for numbering administration purposes.[88] Under this plan, VoIP numbers would work as if part of a nationwide area code overlay, and all calls to these numbers would be treated like local calls from any PSTN rate center for numbering

[83] Wisconsin PSC Comments at 6. *See also* Idaho PUC Comments at 2; Nebraska PSC Comments at 2.

[84] *Id*.; *see also* CLEC Participants July 19 *Ex Parte* Letter at 2; NARUC July 19 *Ex Parte* Letter at 4; Level 3 Jun. 29 *Ex Parte* Letter at 4; Bandwidth.com Jun. 19 *Ex Parte* Letter at 2; CLEC Participants Comments at 10–11.

[85] We seek comment more broadly in the attached Notice of Inquiry about the continued importance of assigning telephone numbers based on geography.

[86] California PUC Comments at 8.

[87] *Id*. at 9.

[88] *Id*. at 10.

administration purposes.[89] The California commission argues that this would make the VoIP provider's choice of rate center irrelevant and allow the use of thousands of numbers currently stranded in rural rate centers by eliminating the disincentives to request numbers from such centers.[90] Is this system feasible from a technological and administrative standpoint, and how would the Commission implement it? Would implementation present any unique challenges for the provision of 911? Would such an approach help reduce waste by allowing the use of more stranded numbers from rural rate centers? If the Commission were to adopt this proposal, should we apply it to VoIP providers with existing numbers obtained through a carrier partner as well as VoIP providers who obtain numbers at some point in the future? If so, are there any drawbacks to applying this framework to existing VoIP numbers? Would such a change in existing numbers cause any difficulties for VoIP providers or their customers, or have impacts on compliance with other rules? Would this approach be consistent with our current intercarrier compensation rules, and if not, should we adjust those rules, and how?[91]

29. *"Facilities Readiness."* Under our rules, carriers must demonstrate "facilities readiness" before they can obtain initial numbering resources, which helps to ensure that carriers are not building inventories before they are prepared to offer service. We imposed on SBCIS a "facilities readiness" requirement set forth in section 52.15(g)(2)(ii) of the rules. In general, we found that SBCIS should be able to satisfy this requirement using the same type of information submitted by carriers. As noted by SBCIS, however, one piece of evidence typically provided by carriers is an interconnection agreement with the incumbent LEC that serves the geographic area in which the carrier proposes to operate.[92] For purposes of demonstrating compliance with section 52.15(g)(2)(ii), we concluded that if SBCIS is unable to provide a copy of an interconnection agreement approved by a state commission it 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. We stated that the tariff must be in effect, and the service ordered, before SBCIS submits an application for numbers. We seek comment on whether this remains a good approach to addressing the concerns that our "facilities readiness" rule was meant to address.

30. In its comments on the Vonage waiver petition, AT&T notes that today's interconnected VoIP providers may prefer to satisfy the facilities readiness requirement by acquiring PSTN connectivity through alternative means, such as entering into "traffic exchange agreements with any LEC servicing the relevant geographic area."[93] Given AT&T's assertions, we seek comment on whether evidence that an interconnection service pursuant to a tariff is still appropriate evidence of "facilities readiness" or whether there are there better ways to demonstrate compliance with this requirement. Should the Commission modify this requirement to allow more flexibility, and if so how?[94]

31. *Timing of Number Requests.* In the *SBCIS Waiver Order*, the Commission required SBCIS to file any requests for numbers with the Commission and the relevant state commission at least 30 days prior to requesting numbers from the number administrators.[95] The 30-day notice period allows the Commission and relevant state commission to monitor the VoIP providers' numbers and to take

[89] *Id*.

[90] *Id*.

[91] The *USF/ICC Transformation Order* adopted a prospective intercarrier framework for VoIP-PSTN traffic. This framework includes two intercarrier compensation rates for VoIP-PSTN traffic: one rate for "toll" VoIP-PSTN traffic and another for "other" VoIP-PSTN traffic. *See USF/ICC Transformation Order*, 26 FCC Rcd at 18008, para. 944.

[92] *See* SBCIS Reply at 11.

[93] AT&T Comments at 3.

[94] AT&T Comments at 2.

[95] Commenters agree that the waivers should be subject to the conditions set forth in the *SBCIS Waiver Order*. *See, e.g.*, AT&T Comments at 2; Wisconsin PSC Comments at 4; Vonage Renewal at 1.

measures to conserve resources, if necessary, such as determining which rate centers are available for number assignments. We seek comment on imposing this requirement on all interconnected VoIP providers. We ask commenters to address the continuing need for this requirement for interconnected VoIP providers and whether this requirement actually furthers the Commission's goal of ensuring number optimization.

32. *Vonage Commitments.* In addition to complying with the Commission's numbering requirements and the requirements set forth in the *SBCIS Waiver Order*, Vonage offered several commitments as a condition of obtaining direct access to numbers. Specifically, 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.[96] Vonage indicates that these commitments will ensure efficient number utilization and facilitate Commission oversight.[97] Should the Commission impose some or all of these requirements on interconnected VoIP providers, or on all entities that obtain telephone numbers? Are there other numbering requirements the Commission should impose on VoIP providers that obtain direct access to numbers? We seek comment on Vonage's commitments. What is an appropriate transition mechanism to ensure non-interrupted service to consumers? Is there a limit on the amount of numbers that can be transitioned without impacting customer service?

33. *Requirements to Enhance State Oversight.* Certain commenters note that state certification of telecommunications carriers provides a process whereby carriers must demonstrate their "financial, managerial, and technical" capabilities to provide service.[98] These commenters also note that state commissions obtain, and require to be kept current, corporate contact information for personnel qualified to address issues relating to regulatory requirements, compliance, 911, and law enforcement.[99] They maintain that interconnected VoIP providers do not go through a similar process to demonstrate their capabilities, nor are they required to provide corporate contact information at the state or federal level.

34. To enhance the ability of state commissions to effectively oversee numbers, which will in turn promote better number utilization, the Wisconsin PSC suggests that the Commission require 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);[100] (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.[101] We seek comment on this proposal and on whether additional oversight of the financial and managerial aspects of the VoIP providers' capabilities is required. We seek particular comment on how providers of nomadic VoIP service could comply with a requirement to provide access to the locally-appropriate N11 numbers.

[96] Vonage Supplement at 5–6.

[97] *Id*. at 5.

[98] Letter from James C. Falvey, Counsel for CLEC Participants, to Marlene H. Dortch, Secretary, Federal Communications Commission (Apr. 13, 2012) (CLEC Participants April 13 *Ex Parte* Letter).

[99] *Id*. at 2.

[100] An "Operating Company Number" is a four-digit numerical code used to identify telecommunications service providers. *See* ATIS-0300251, *Codes for Identification of Service Providers for Information Exchange*. The National Exchange Carrier Association assigns all OCNs.

[101] Wisconsin PSC Comments at 4–7.

35. *Competitive Impact.* We seek comment on whether our proposal to allow direct access to numbers for interconnected VoIP providers might affect competition, and if so how. For example, would it encourage companies that have both interconnected VoIP and CLEC affiliates to migrate more functions into the interconnected VoIP affiliates? If so, would such migration affect competition and in what way?

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

36. If we allow interconnected VoIP providers direct access to numbers, we must ensure our ability to take appropriate enforcement action against such interconnected VoIP providers if they violate the numbering rules.[102] Toward this end, we seek comment on whether we should implement a certification or blanket authorization process applicable to interconnected VoIP providers that elect to obtain direct access to numbers. We also seek comment on ways to ensure that interconnected VoIP providers that obtain direct access to numbers are treated on par with similarly situated traditional common carriers with respect to our numbering rules.

37. In order for the Commission to exercise its forfeiture authority for violations of the Act and its rules without first issuing a warning, the wrongdoer must hold (or be an applicant for) some form of authorization from the Commission, or be engaged in activity for which such an authorization is required.[103] A Commission authorization is not currently required to provide interconnected VoIP service. Should the Commission require that providers obtain a certification from the Commission before gaining direct access to numbering resources, and if so, would Commission certification be necessary and appropriate for all providers, not just those that cannot obtain certifications from the state commission? Alternatively, would it be less administratively burdensome—to both the Commission and the provider—if the Commission amended its rules to establish "blanket" authorization for interconnected VoIP providers for access to numbering resources?[104] If adopted, should the Commission's certification or blanket authority serve as the evidence of authority to provide service that is required under section 52.15(g)(2)(i) of our rules?[105]

38. In addition, we seek comment on whether there are ways to ensure that VoIP providers are subject to the same penalties and enforcement processes as traditional common carriers. For example, could and should we require, as a condition of obtaining direct access to numbers, that VoIP providers consent to be subject to the same penalties, in terms of potential dollars? Similarly, can and should we require VoIP providers to waive any additional process protections that traditional common carrier would not receive? Commenters advocating such approaches should discuss in detail the legal analysis and/or any relevant precedent that they believe could justify such action. Are there other bases for imposing on

[102] 47 U.S.C. §§ 201(b), 208, 211(b), 216-218, and 503(b)(5). For instance, a common carrier may be assessed a forfeiture up to a statutory maximum of $150,000 for each violation and up to a total of $1.5 million for continuing violations, *see* 47 U.S.C. § 503(b)(2)(B); 47 C.F.R. § 1.80(b)(2), whereas a non-common carrier that does not hold a Commission license could be subject to a statutory maximum of $16,000 per violation up to a total of $112,500 for continuing violations. *See* 47 U.S.C. § 503(b)(2)(D); 47 C.F.R. § 1.80(b)(7).

[103] *See* 47 U.S.C. § 503(b).

[104] The Commission could establish a blanket authorization process similar to that used by the Commission with respect to domestic interstate service. *See* 47 C.F.R. 63.01; *see also Implementation of Section 402(B)(2)(A) of the Telecommunications Act of 1996*, Report and Order and Second Memorandum Opinion and Order, 14 FCC Rcd 11364 (1999) (the Commission conferred blanket authorization to carriers who sought to construct, operate, or engage in transmission over domestic lines of communication).

[105] *See supra* para. 21 for a solicitation of comments regarding the documentation, if any, that interconnected VoIP providers should provide to the number administrators to receive numbers.

interconnected VoIP providers equivalent enforcement provisions as those imposed on traditional common carriers in the numbering context?

39. Finally, should VoIP providers be prohibited from obtaining direct access to numbers if they are "red-lighted" by the Commission for unpaid debts or other reasons? Are there other reasons for which VoIP providers should be deemed ineligible to obtain numbers? We seek comment on these and any alternative approaches that commenters believe would put interconnected VoIP providers on an equal footing (regarding enforcement of numbering provisions) with traditional common carriers.

B. Additional Issues Raised in Pending Waiver Proceedings

40. In comments on the pending petitions for waiver, parties raise a number of additional issues related to interconnected VoIP providers obtaining numbers directly from the numbering administrators. Specifically, some commenters question how call routing and termination, intercarrier compensation, IP interconnection, and local number portability would work in such a scenario. Others respond that such concerns are overstated or can be readily addressed. We discuss and seek comment on these issues in the following sections, although as discussed below, we believe these concerns generally can be addressed through appropriate conditions on interconnected VoIP providers' direct access to numbers.

1. Databases, Call Routing and Termination

41. Commenters raise questions about the routing of calls by interconnected VoIP providers that use their own telephone numbers. Specifically, commenters explain that interconnected VoIP provider switches do not appear in the LERG, the database which enables carriers to send traffic to, and receive traffic from, a given telephone number.[106] Commenters claim that, without association to a switch, carriers will not know where to route the calls, likely resulting in end user confusion and interference with emergency services and response.[107] Vonage responds that concerns regarding call routing are misplaced,[108] and that it will use marketplace solutions from companies such as Level 3 or Neutral Tandem for transit and tandem routing functions.[109] For instance, Vonage explains that it can designate the switch of a carrier partner in the LERG and in the NPAC database, which is used for number porting, as the default routing location for traffic bound for numbers assigned to Vonage in order to route calls originated in the PSTN.[110]

42. Neutral Tandem agrees that marketplace solutions are available that will allow carriers to exchange traffic with VoIP providers through LERG-based routing, to the extent carriers do not choose to exchange traffic through direct interconnection.[111] Specifically, it notes that traffic for numbers assigned to VoIP providers could be routed in the same manner that traffic is routed for numbers assigned to CLECs that have designated alternative tandem switches as the homing tandem for those numbers.[112] Thus, Neutral Tandem concludes that allowing interconnected VoIP providers to designate alternative

[106] CLEC Participants Comments at 8. *See supra* note 53 for further explanation of the LERG.

[107] *Id.* at 8–9.

[108] Letter from Brita D. Strandberg, Counsel to Vonage Holdings Corp. to Marlene H. Dortch, Secretary, Federal Communications Commission (May 7, 2012) (Vonage May 7 *Ex Parte* Letter).

[109] Letter from Brita D. Strandberg, Counsel to Vonage Holdings Corp. to Marlene H. Dortch, Secretary, Federal Communications Commission (Mar. 21, 2012) (Vonage Mar. 21 *Ex Parte* Letter).

[110] *Id*. at 1.

[111] Neutral Tandem Comments at 2.

[112] *Id.*

tandems in the LERG as the homing tandem does not appear to present any unique issues.[113] CLECs, however, note that even with the use of new marketplace transit services, there is no established rule for how call routing look-ups for interconnected VoIP providers listed in the LERG will be accomplished.[114] In addition, commenters indicate that Vonage has not made publicly available its interconnection agreements that will help with its routing.[115]

43. In its July letter, Vonage explains that, if it is granted direct access to numbers, it will populate the NPAC or LERG as appropriate by associating Vonage's OCN with Vonage-assigned telephone numbers. Vonage asserts that this will enable providers accessing these databases to see the Vonage OCN for Vonage-assigned numbers, thereby enabling them to route calls to Vonage-assigned numbers directly pursuant to IP interconnection agreements. According to Vonage, where it lacks an IP interconnection agreement, providers will route calls to it using the Common Language Location Identification in the NPAC or LERG databases for the switch to which Vonage phone numbers will be homed. Vonage explains that it plans to use carrier partners to provide the necessary switch facilities to achieve this routing.[116] Finally, Vonage states that it expects to continue relying in certain cases on numbers obtained through carrier partners. It explains that, for these numbers, existing routing arrangements based on the carrier partners' OCN designation in the NPAC or LERG will remain in place.[117]

44. We seek comment generally on whether providing interconnected VoIP providers direct access to numbers will hinder or prevent call routing or tracking, and how we can prevent or minimize such complications. We also seek comment on whether the marketplace solutions described here will be adequate to properly route calls by interconnected VoIP providers, absent a VoIP interconnection agreement. Should we require interconnected VoIP providers to maintain carrier partners to ensure that calls are routed properly?

45. We seek comment on the routing limitations that interconnected VoIP providers currently experience as a result of having to partner with a carrier in order to get numbers, and on the role and scalability of various industry databases in routing VoIP traffic directly to the VoIP provider over IP links. What are the restrictions imposed by providers of the various database services (*e.g.*, Business Integrated Routing & Rating Database System (BIRRDS)/LERG, NPAC, and Line Information Database (LIDB)/Calling Name (CNAM)) on access to the databases? In order for interconnected VoIP providers to have access to these databases, what restrictions need to be eliminated or modified? What restrictions and signaling requirements must be maintained in order to provide security across interconnection points? We also seek comment on the practices that service providers may need to alter to increase interconnection and routing efficiency. Vonage has alleged that its CLEC partners refuse to list Vonage as an alternate provider in the NPAC database. Should we require carriers to list VoIP providers in the NPAC database? Is listing a non-facilities-based interconnected VoIP provider in the Alternate Service Provider Identification (ALT SPID) field in the NPAC database sufficient to allow a provider to route calls directly to a VoIP provider if the VoIP provider has a VoIP interconnection agreement? Would such a listing provide information that could be used as a basis for assessing access charges? Should NPAC information be used for that purpose?

46. Finally, we seek comment on how numbering schemes and databases integral to the operations of PSTN call routing will need to evolve to operate well in IP-based networks. In its recent

[113] *Id.*

[114] CLEC Participants Comments at 9.

[115] Letter from James C. Falvey, Counsel for CLEC Participants to Marlene H. Dortch, Secretary, Federal Communications Commission (Apr. 13, 2012) (CLEC Participants April 13 *Ex Parte* Letter).

[116] Vonage July 31 *Ex Parte* Letter at 4.

[117] *Id.*

meetings, the Technological Advisory Council recommended that the Commission open a rulemaking and seek comment on a variety of issues surrounding the transition to IP networks.[118] We seek comment generally on what databases need to be modified, how they should be modified, and what the role of Commission and industry should be in ensuring a proper transition to VoIP call routing.[119] Should the Commission encourage development of a new set of databases, or should existing databases be modified to account for new technological developments?[120] How should the Commission approach numbering policy if the industry transitions to using numbers as identifiers rather than addresses?[121]

2. Intercarrier Compensation

47. A number of commenters state that granting interconnected VoIP providers direct access to numbers would undermine or confuse intercarrier compensation obligations. In the *USF/ICC Transformation Order*, the Commission adopted a default uniform national bill-and-keep framework as the ultimate intercarrier compensation end state for all telecommunications traffic exchanged with a LEC, and established a measured transition that focused initially on reducing certain terminating switched access rates.[122] The initial steps of the transition cap the vast majority of switched access rates[123] and require carriers to, among other things, reduce certain intrastate switched access rates to interstate levels pursuant to the methodology contained in the rules.[124]

48. The *USF/ICC Transformation Order* sets forth several important policy goals for VoIP traffic. First, "the Commission has set an express goal of facilitating industry progression to all-IP networks."[125] Second, while providing a "move away from the pre-existing, flawed intercarrier compensation regimes," the Commission sought to "reduce disputes" stemming from the lack of clarity regarding the intercarrier compensation obligations for VoIP traffic.[126] Third, the Commission stated that a significant goal was to eliminate opportunities and incentives to engage in access avoidance, both for non-VoIP traffic[127] and for VoIP traffic.[128]

49. The Commission noted that the "lack of clarity regarding the intercarrier compensation obligations for VoIP traffic" had led to "significant billing disputes and litigation,"[129] which in turn

[118] Technological Advisory Council, Presentation to the Federal Communications Commission, at 55 (2012), *available at* http://transition.fcc.gov/bureaus/oet/tac/tacdocs/meeting121012/TAC12-10-12FinalPresentation.pdf .

[119] *See id.* at 55, 60.

[120] *See id.* at 60.

[121] *See id.* at 57–58.

[122] *USF/ICC Transformation Order*, 26 FCC Rcd at 17676–77, para. 35. "Under bill-and-keep arrangements, a carrier generally looks to its end-users—which are the entities and individuals making the choice to subscribe to that network—rather than looking to other carriers and their customers to pay for the costs of its network. To the extent additional subsidies are necessary, such subsidies will come from the Connect America Fund, and/or state universal service funds." *USF/ICC Transformation Order*, 26 FCC Rcd at 17904, para. 737.

[123] *USF/ICC Transformation Order*, 26 FCC Rcd at 17934–36, para. 801 and Figure 9.

[124] *See* 47 C.F.R. § 51.907(a); 47 C.F.R. § 51.909(a).

[125] *USF/ICC Transformation Order*, 26 FCC Rcd at 18123, para. 1335; *see also id.* at 17926, para. 783 ("[O]ur goal is to facilitate the transition to an all-IP network and to promote IP-to-IP interconnection.").

[126] *Id.* at 18009, para. 946.

[127] *Id.* at 17912, para. 754.

[128] *Id.* at 18006, paras. 941, 951.

[129] *Id.* at 18003–04, para. 937.

produced uncertainty that was "likely deterring innovation" and the introduction of IP services.[130] The Commission thus adopted a prospective, transitional compensation framework for such traffic[131] whereby, in the absence of an agreement for intercarrier compensation, LECs may tariff, both at the state and federal level, one of two default intercarrier compensation rates for originating or terminating VoIP-PSTN traffic.[132] Specifically, the default charge for "'toll' VoIP-PSTN traffic" is "equal to [the] interstate access rate[] applicable to non-VoIP traffic, both in terms of the rate level and rate structure, "[133] and the default charge for "other VoIP-PSTN traffic" is "the otherwise-applicable reciprocal compensation" rate.[134] The Commission further determined that this framework of default rates is subject to the rate reductions adopted in the *USF/ICC Transformation Order* as part of the transitional recovery mechanism.[135] In March 2012, the Commission adopted a reconsideration order that, among other things, permitted LECs to "tariff default charges equal to intrastate originating access for originating intrastate toll VoIP traffic at intrastate rates . . . until June 30, 2014."[136]

50. As noted above, interconnected VoIP providers with direct access to numbers could enter into agreements to interconnect[137] with other providers.[138] Pursuant to such an agreement, an interconnected VoIP provider could have incoming calls routed directly to itself rather than to a carrier partner. As an initial matter, the implementation of intercarrier compensation obligations depends on whether the traffic being exchanged is tariffed or exchanged pursuant to contract. If the traffic is tariffed at the state or federal level, intercarrier compensation generally is owed by the entity that receives the tariffed services. For traffic exchanged pursuant to an agreement, intercarrier compensation is determined by such agreements. Commenters have raised concerns about how the implementation of intercarrier compensation obligations may change as a result of granting VoIP providers direct access to numbers.[139] Specifically, CLEC Participants state that they are concerned about a "circumstance where a wholesale carrier partners with a VoIP provider but the phone number is directly assigned to the VoIP provider . . . [and] neither the wholesale partner nor the VoIP provider will make intercarrier compensation payments."[140] Additionally, NTCA observes that "numerous intercarrier compensation tariffing issues"

[130] *Id.* at 18005, para. 938.

[131] *Id.* at 18008, paras. 943–44.

[132] *Id.* at 18008, para. 944.

[133] *Id.*

[134] *Id.*

[135] *Id.* at 18008, para. 945.

[136] *Connect America Fund et al*., WC Docket No. 10-90 *et al.*, Second Order on Reconsideration, 27 FCC Rcd 4648, 4659, para. 30 (2012) (*Second Order on Reconsideration*).

[137] *See infra* Section III.B.3, paras. 52-56; *see also USF/ICC Transformation Order*, 26 FCC Rcd at 18123, para. 1335.

[138] Richard Shockey, *Technical Challenges in the PSTN Transition from Plain Old Telephone Service*, 7–9 *attached to* Letter from Richard Shockey, Shockey Consulting, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200 *et al.* (filed Sept. 4, 2012) ("*Technical Challenges*").

[139] *See, e.g*., Letter from James C. Falvey, Counsel for CLEC Participants, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 10-90 at 3-4 (Aug. 27, 2012) (CLEC Participants Aug. 27 *Ex Parte* Letter); Letter from James C. Falvey, Counsel for CLEC Participants, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 10-90 at 3-4 (July 16, 2012) (CLEC Participants July 16 *Ex Parte* Letter).

[140] *See* Letter from James C. Falvey, Counsel for CLEC Participants, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 10-90 at 3 (Feb. 20, 2013) ("Carriers have a serious concern that neither Vonage nor its intermediary carriers will pay to terminate Vonage calls. Today, the intermediary carrier can

(continued . . .)

remain with respect to implementation of the *USF/ICC Transformation Order*.[141] NTCA specifies that it "remain[s] unclear . . . who would be liable for intercarrier compensation where a VoIP provider with direct access to telephone numbers used a transiting carrier to achieve interconnection."[142] We seek comment on these issues. How do commenters suggest the Commission address any new ambiguities in intercarrier compensation payment obligations? Commenters asserting that the relief requested will result in non-payment of or increased disputes concerning intercarrier compensation should address with specificity differences in intercarrier compensation obligations for each entity in a call path that they believe would be introduced by granting VoIP providers direct access to numbers. We also seek comment on whether granting interconnected VoIP providers direct access to numbers would improve the accuracy and utility of call signaling information for traffic originated by customers of interconnected VoIP providers. Would any intercarrier compensation impacts be temporary, in light of the ongoing transition toward a bill-and-keep intercarrier compensation framework?[143]

51. Commenters have also stated that the responsibility for payments for traffic delivered to the PSTN by tandem provider/carrier partner combinations "presents novel questions of law and policy that have yet to be determined or even examined in detail."[144] Competitive tandem providers may have non-LEC and LEC operations. Accordingly, we seek comment about the regulatory status of competitive tandem providers. In particular, are any portions of competitive operations regulated by the states or Commission? If not, what intercarrier compensation obligations apply, and to what entity, for traffic that a VoIP provider originates or terminates in partnership with a competitive tandem provider that is not certified by the Commission or any state Commission? Commenters should address with specificity any uncertainty regarding which entity is responsible for intercarrier compensation for particular traffic in such scenarios, why allowing VoIP providers direct access to numbers would have any impact, and on ways we could address such concerns.

3. VoIP Interconnection

52. Some commenters argue that the Commission should address interconnection-related issues before granting interconnected VoIP providers direct access to numbers.[145] They assert that we should decide what interconnection provisions in sections 251 and 252 pertain to VoIP traffic before we address whether to give VoIP providers direct access to numbers.[146] We seek comment generally on the effect that direct access to numbers will have on the industry's transition to direct interconnection in IP. The Commission has observed that "[t]he duty to negotiate in good faith has been a longstanding element of interconnection requirements under the Communications Act and does not depend upon the network

(Continued from previous page)
be held responsible because the calls are traced to numbers assigned to that carrier. If numbers are assigned directly to Vonage, neither the carrier nor Vonage will pay to terminate not only Section 251(b)(5), but also access traffic."); *see also* CLEC Participants Aug. 27 *Ex Parte* Letter at 3; CLEC Participants July 16 *Ex Parte* Letter at 3 ("Another novel issue is whether Petitioners and/or their carrier partners would accept their responsibility to pay intercarrier compensation if a phone number is directly assigned to them. Vonage has never committed to making such payments.").

[141] *See* Letter from Michael R. Romano, Senior Vice President, NTCA, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 10-90 at 2 (July 19, 2012) (NTCA July 19 *Ex Parte* Letter).

[142] *Id*.

[143] *See USF/ICC Transformation Order*, 26 FCC Rcd at 17676–77, para. 35.

[144] *See* Comments of National Telecommunications Cooperative Association, CC Docket No. 99-200 at 4 (Aug. 23, 2012).

[145] *See, e.g.*, NARUC Jul. 19 *Ex Parte* Letter , app. A, at 5.

[146] Letter from James C. Falvey, Counsel for ILEC/CLEC Participants, to Marlene H. Dortch, Secretary, FCC, CC Docket 99-200 et al. at 3 (filed Aug. 27, 2012).

technology underlying the interconnection" and has stated that "we expect all carriers to negotiate in good faith in response to requests for IP-to-IP interconnection."[147]

53. We seek comment on the status of IP interconnection for VoIP providers today. VoIP telephony has existed for some time, and adoption by businesses and service providers is increasing.[148] We also seek comment on the number of VoIP interconnection agreements that exist today and how parties to those agreements treat technical issues. For example, some parties note that carriers have historically relied primarily on the LERG and LNP databases to route calls, but these databases cannot identify Session Initiation Protocol (SIP) endpoints.[149] Some parties additionally note that the preference to route calls to the VoIP provider's CLEC partner via PSTN trunks, rather than to the VoIP provider directly, has hampered the implementation of VoIP interconnection.[150] We seek comment on whether access to numbers will increase call routing efficiency when one of the providers is a VoIP provider, and whether such efficiency will affect the likelihood of parties entering into agreements for VoIP interconnection.

54. We also seek comment on the extent to which our proposals would promote IP interconnection. One of the Commission's central missions is to make "available . . . to all the people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges."[151] The Commission has already set its goal to "facilitate the transition to an all-IP network and to promote IP-to-IP interconnection."[152] We expect that granting VoIP providers direct access to numbers would facilitate several types of VoIP interconnection, including interconnection between over-the-top VoIP providers and cable providers, interconnection between two over-the-top providers, and interconnection between cable providers. We seek comment on this analysis.

55. Vonage asserts that some providers are reluctant to route traffic directly to Vonage over an IP-to-IP interconnection arrangement, rather than through Vonage's numbering partners using PSTN trunks, because industry routing databases indicate that a given Vonage customer's number is "owned" by

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[147] *USF/ICC Transformation Order*, 26 FCC Rcd at 18045, para. 1011.

[148] *See* CISCO SYSTEMS, THE TRANSITION TO IP TELEPHONY AT CISCO SYSTEMS 1 (2001) (noting that Cisco began transitioning to IP telephony in 1998); *Local Competition and Broadband Reporting*, CC Docket No. 99-301, Notice of Proposed Rulemaking, 14 FCC Rcd 18100, paras. 62–63 & n.99 (1999) (noting that the "public switched telephone network" includes the traditional circuit-switched telephone network as well as all alternatives to the wireline infrastructure, regardless of switching technology" and that "interconnection of IP-based and circuit-switched networks presumably would allow an IP-telephony message to be delivered to any telephone service subscriber"); 3rd Generation Partnership Project, *Technical Specification Group Services and Systems Aspects, IP Multimedia Subsystem (IMS), Stage 2 (Release 11)*, 5.4.2 to 5.4.3 (2012) (establishing transport and application level interworking for SIP, and procedures for forwarding a call session to the PSTN).

[149] Richard Shockey, *Technical Challenges in the PSTN Transition from Plain Old Telephone Service*, 7–9 *attached to* Letter from Richard Shockey, Shockey Consulting, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200 *et al.* (filed Sept. 4, 2012) ("*Technical Challenges*"). Some carriers who interconnect in IP bilaterally have apparently identified a modified method of routing using carrier ENUM or SIP Redirect queries after locating the Service Provider Identification Number in a locally cached LERG database.

[150] Letter from Robert W. Quinn, Jr., SVP, Federal Regulatory, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200, at 2-3 (filed May 29, 2012); Comments of Vonage Holdings Corp., CC Docket No. 99-200 at 6–8 (Jan. 25, 2012).

[151] 47 U.S.C. § 151.

[152] *USF/ICC Transformation Order*, 26 FCC Rcd at 17926, para. 783; *see also* National Broadband Plan at 49 (stating in recommendation 4.10 that "[t]he FCC should clarify interconnection rights and obligations and encourage the shift to IP-to-IP interconnection").

a CLEC, and that traffic to this number should be routed to the CLEC's switch.[153] Vonage claims that, without direct access to numbers, Vonage and its IP interconnection partners would need to develop routing databases outside of existing industry databases, which would increase the cost and difficulty of implementing IP-to-IP interconnection.[154] Vonage therefore asserts that granting VoIP providers direct access to numbers will encourage IP-to-IP interconnection by eliminating disincentives to interconnect in IP format and lowering the costs associated with implementing IP-to-IP interconnection agreements.[155] We seek comment on these assertions. What further steps might the Commission take to eliminate roadblocks and encourage VoIP interconnection?

56. We seek comment on whether direct access to numbers will affect the rights and obligations of service providers vis-à-vis VoIP interconnection.[156] Some parties assert that they are entering into commercial agreements for voice interconnection in IP format.[157] Vonage also states that it will seek agreements for VoIP interconnection if granted access to numbers.[158] We seek comment on whether granting direct access to numbers will accelerate this trend, and whether this should affect the Commission's proposal to permit interconnected VoIP providers to receive direct access to numbers.

4. Local Number Portability Obligations

57. In 2007, the Commission extended local number portability (LNP) obligations to interconnected VoIP providers in the *VoIP LNP Order*.[159] The CLEC Participants assert that the Commission has not considered the scope of the number portability obligation for interconnected VoIP providers where no carrier partner is involved.[160] They assert that the examples of porting obligations provided by the Commission in the *VoIP LNP Order* relate to "an interconnected VoIP provider that partners with a wireline carrier for numbers," and that the only other circumstance addressed is the case where the interconnected VoIP provider is itself a carrier, and has a separate obligation to port numbers as a carrier.[161]

58. The CLEC Participants also point to the Act's definition of "number portability"—"the ability of users of telecommunications services to retain, at the same location, existing

[153] Vonage Comments at 6.

[154] *Id*.

[155] *Id*.

[156] We note that giving interconnected VoIP providers direct access to numbers does not, by itself, convey rights or responsibilities under sections 251 and 252.

[157] *See Technical Challenges* 7–9.

[158] Vonage July 31 *Ex Parte* Letter at 1–2; Comments of Vonage Holdings Corp., CC Docket No. 99-200 at 6–8 (Jan. 25, 2012); Vonage March 12, 2012 *Ex Parte* Letter at 1–2.

[159] *VoIP LNP Order*, 22 FCC Rcd 19531. Specifically, the Commission stated that "both an interconnected VoIP provider and its numbering partner must facilitate a customer's porting request to or from an interconnected VoIP provider. By 'facilitate,' we mean that the interconnected VoIP provider has an affirmative legal obligation to take all steps necessary to initiate or allow a port-in or port-out itself or through its numbering partner on behalf of the interconnected VoIP customer (*i.e.*, the 'user'), subject to a valid port request, without unreasonable delay or unreasonable procedures that have the effect of delaying or denying porting of the number." *Id.* at 19548–49, para. 32 (emphasis added). *See also* 47 C.F.R. § 52.34 (explaining the obligation of interconnected VoIP providers to facilitate "valid number portability request[s]").

[160] *See* Letter from James C. Falvey, Counsel for CLEC Participants, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200 *et al.*, at 5 (dated May 24, 2012) (CLEC Participants May 24 *Ex Parte* Letter); Level 3 Aug 23, 2012 Comments at 9–10.

[161] CLEC Participants May 24 *Ex Parte* Letter at 6.

telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another"—as evidence that the Act's number portability obligations apply only when switching from one telecommunications *carrier* to another and to users of *telecommunications services*.[162] They assert that the Commission has not explained how "number portability" as defined in the statute can apply to a provider like Vonage that neither considers itself a "carrier" nor a provider of "telecommunications services."[163] The CLEC Participants assert that porting disputes will likely occur if the Commission does not first clarify whether and pursuant to what legal authority there exists an obligation to port numbers to non-carriers.[164]

59. First, commenters seem to agree that VoIP providers are obligated to port numbers to other providers.[165] The Commission's porting rules impose an "affirmative legal obligation" on interconnected VoIP providers "to take all steps necessary to initiate or allow a port-in or port-out."[166] This obligation applies whether or not the interconnected VoIP provider obtains numbers from a telecommunications carrier. Second, we believe that our rules already require carriers to port numbers to VoIP providers directly, and not merely to the VoIP providers' carrier partners. In the *VoIP LNP Order*, the Commission "clarif[ied] that carriers have an obligation under our rules to port-out NANP telephone numbers, upon valid request, for a user that is porting that number for use with an interconnected VoIP service."[167] The Commission's clarification did not specify that the obligation pertains only to an interconnected VoIP provider with a numbering partner. In the *VoIP LNP Order* the Commission concluded that it had "ample authority" to impose porting requirements on LECs and interconnected VoIP providers.[168]

60. Commission rules require carriers to port directly to interconnected VoIP providers that themselves have direct access to numbers.[169] The language in the *VoIP LNP Order* supports this reading, as the Commission imposes a legal obligation on an interconnected VoIP provider *itself* to "initiate or allow a port-in or port-out" and on carriers to do the same upon request from an interconnected VoIP provider *or* its numbering partner.[170] That requirement was imposed after the Commission granted a

[162] 47 U.S.C. § 153(30); CLEC Participants May 24 *Ex Parte* Letter at 6.

[163] *See* CLEC Participants May 24 *Ex Parte* Letter at 6; Letter from James C. Falvey, Counsel for CLEC Participants, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200 *et al.*, at 3 (dated Jun. 25, 2012) (CLEC Participants June 25 *Ex Parte* Letter); Level 3 Aug. 23, 2012 Comments at 9–10.

[164] *See* Letter from James C. Falvey, Counsel for CLEC Participants, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200 *et al.*, at 2 (dated Jul. 19, 2012) (CLEC Participants July 19 *Ex Parte* Letter).

[165] *See* Vonage July 31 *Ex Parte* Letter at 2 (explaining that the Commission's rules require interconnected VoIP providers like Vonage to port numbers whether or not the interconnected VoIP provider has a numbering partner); Letter from Erin Boone, Senior Corporate Counsel, Level 3, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200 *et al.*, at 4 (dated Jun. 28, 2012) (Level 3 June 28 *Ex Parte* Letter) (acknowledging that two-way interconnected VoIP providers have legal obligations to port numbers).

[166] 47 C.F.R. § 52.34; *see also* Vonage July 31 *Ex Parte* Letter at 2.

[167] *See VoIP LNP Order*, 22 FCC Rcd at 19550, para. 35.

[168] These requirements were imposed pursuant to sections 251(e) and 251(b)(2) of the Act, as well as to the Commission's ancillary authority under Title I. *See id.* at 19543, para. 21, 19541, para. 19.

[169] Thus carriers must port numbers to (a) interconnected VoIP providers that are licensed or certificated as a carrier in a state, (b) SBCIS, which may access numbers directly pursuant to the *SBCIS Waiver Order*, and (c) interconnected VoIP providers such as Vonage that receive direct access to numbers as a result of the accompanying Order.

[170] *VoIP LNP Order*, 22 FCC Rcd at 19548–49, para. 32.

waiver of section 52.15(g)(2) in the *SBCIS Waiver Order*.[171] Thus, when the Commission issued the porting requirements, it contemplated that VoIP providers would have direct access to numbers in some instances.[172] Neither the language of the *VoIP LNP Order* nor the context in which it was issued suggest that the requirement to port was limited to instances in which a VoIP provider obtained numbers through a carrier partner.

61. In any event, to the extent the record reflects confusion on this issue, we take this opportunity to restate the Commission's intention to allow users of interconnected VoIP services the benefits of local number portability without regard to whether the VoIP provider obtains numbers directly or through a carrier partner. To more expressly codify this intention, we propose to modify our rules to include language that users of interconnected VoIP services should enjoy the benefits of local number portability without regard to whether the VoIP provider obtains numbers directly or through a carrier partner. We seek comment on this proposal.

62. In the *VoIP LNP Order*, the Commission also clarified that carriers "must port-out NANP telephone numbers *upon valid requests* from an interconnected VoIP provider (or from its associated numbering partner)."[173] The CLEC Participants have argued that a port directly to a non-carrier interconnected VoIP provider (that has not been certificated by a state), is not a "valid port request," so there is no obligation to port directly to a non-carrier interconnected VoIP provider. As noted, we propose to revise our rules to better reflect this obligation. Our proposed rule change should eliminate any argument that a request to port to an interconnected VoIP provider is invalid merely because the ported-to entity is an interconnected VoIP provider.[174]

63. *Geographic Limitations on Porting to and from VoIP Providers.* The Commission has established geographic limits on the extent to which a provider must port numbers. For interconnected VoIP providers, which to date have generally obtained NANP numbers through commercial arrangements with traditional telecommunications carriers, the porting obligations to or from the interconnected VoIP provider stem from the status of the interconnected VoIP provider's numbering partner and the status of the provider to or from which the NANP telephone number is ported.[175] NANC guidelines limit wireline-to-wireline number porting to carriers with facilities or telephone numbers in the same rate center.[176] A wireline carrier must port numbers to a wireless carrier where the requesting wireless carrier's coverage area overlaps with the geographic location of the customer's wireline rate center, so long as the porting-in

[171] *See SBCIS Waiver Order*, 20 FCC Rcd at 2962, para. 9 ("Moreover, SBCIS will be responsible for processing port requests directly rather than going through a LEC.").

[172] Moreover, the Commission at the time did not intend the SBCIS waiver to be unique. Rather, the Commission stated that it intended to grant the same relief to similarly-situated VoIP providers. *SBCIS Waiver Order*, 20 FCC Rcd at 2959, para. 4.

[173] *VoIP LNP Order*, 22 FCC Rcd at 19550, para. 35 n.119 (emphasis added).

[174] In a Declaratory Ruling, the Commission clarified the information necessary to present a "valid" request. *Id*. at 19554, para. 42. The Commission mandated that LNP validation should be based on no more than four information fields for simple ports—customer telephone number, customer account number, five-digit zip code, and passcode (if applicable). *Id.* at 19557–58, paras. 47–48. The Commission later revised these data exchange requirements in the *LNP Standard Fields Order*, requiring 14 fields—and only those 14 fields—to accomplish a simple port in a valid port request. *Local Number Portability Porting Interval and Validation Requirements; Telephone Number Portability*, WC Docket No. 07-244, CC Docket No. 95-116, Report and Order, 25 FCC Rcd 6953 (2010) (*LNP Standard Fields Order*).

[175] *VoIP LNP Order*, 22 FCC Rcd at 19549-50, para. 34.

[176] *Id.* at 19534, para. 6. A "rate center" is a geographic area that is used to determine whether a call is local or toll. *See id.* at 19534, n.13.

wireless carrier maintains the number's original rate center designation following the port.[177] Similarly, a wireless carrier must port-out a NANP telephone number to another wireless carrier, or a wireline carrier that is within the number's originating rate center.

64. We seek comment on the geographic limitations, if any, that should apply to ports between a wireline carrier and an interconnected VoIP provider that has obtained its numbers directly from the number administrators, or between a wireless carrier and an interconnected VoIP provider that has obtained its numbers directly from the number administrators. Should porting in these circumstances be limited to where the interconnected VoIP provider's coverage area overlaps with the geographic location of the customer's wireline rate center, as with wireline-wireless intermodal porting? Should porting in these circumstances be limited to situations where the interconnected VoIP provider has facilities or telephone numbers in the same rate center? Is there another standard that would be more appropriate for ports involving interconnected VoIP providers that obtain their numbers directly from the number administrators? Are geographic limitations on porting directly between an interconnected VoIP provider and another carrier necessary? Are there any technical limitations that should govern the circumstances under which porting is required when porting directly to or from an interconnected VoIP provider (as opposed to an interconnected VoIP provider's carrier numbering partner)? We seek comment on whether, as a practical matter, interconnected VoIP providers will need to partner with a carrier numbering partner to port numbers in some or all instances, even if they are granted direct access to numbers.

5. Transitioning to Direct Access

65. Level 3 argues that granting a waiver for direct access to numbers would "rapidly" erode the market for certain CLEC services, while conducting a rulemaking would allow for an "orderly transition and timeline" for business planning surrounding any rule change.[178] Level 3 proposes that the Commission ask the industry about "the reasonable lead time that would be required to design and test" new products and services that could replace revenues lost as a result of a change in our rules regarding access to numbers.[179] We recognize that allowing direct access to numbers by entities without state certification could affect existing revenue streams to companies that currently provide wholesale services to interconnected VoIP providers. We also recognize that transferring numbers from one provider to another could potentially present logistical challenges, at least if the volume of numbers to be transferred in a rate center is unusually large. We therefore seek comment on whether, if we adopt the changes proposed herein, we should do so on a gradual or phased-in basis. If so, what would be appropriate timeframes and limits for a graduated transition? What period of time would permit the industry to adjust to the changes? Should we limit the volume of numbers that any non-certified provider may obtain in a

[177] *See Telephone Number Portability; CTIA Petitions for Declaratory Ruling on Wireline-Wireless Porting Issues*, CC Docket No. 96-116, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 12697, 23706, para. 22 (2003) (*Intermodal Number Portability Order*). A wireless carrier's coverage area is the "area in which wireless service can be received from the wireless carrier." *Id.* at 23698, para. 1. The Commission found nothing in its rules that requires a wireless carrier to have a physical point of interconnection or numbering resources in the rate center where the number is assigned. *Id.*

[178] *See, e.g.*, Letter from Erin Boone, Senior Corporate Counsel, Federal Regulatory Affairs, Level 3 Communications, LLC to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200 et al., at 2 (filed Oct. 17, 2012) (noting that, in addition to providing interconnected VoIP provider customers with access to telephone number resources, local exchange services provided to interconnected VoIP providers include inbound and outbound voice and network access services that provide interconnected VoIP providers with connectivity to the PSTN).

[179] *See* Letter from Michael J. Shortley, III, Vice President – Legal, Level 3 Communications, LLC to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200 (filed Nov. 20, 2012).

specified time period and/or for a particular rate center?[180] What other steps should the Commission take to ensure that any transition to direct access to numbers by interconnected VoIP providers occurs without unnecessary disruption to consumers or the industry? For example, because the numbers are part of a numbering scheme for telecommunications networks located in various countries, would direct access trigger any obligations to coordinate with those countries?[181] We seek comment on these obligations and any other potential international implications that direct access may raise.

6. Numbering Cost Allocation

66. Section 251(e)(2) of the Act requires that the "cost of establishing telecommunications numbering administration arrangements and number portability . . . be borne by all telecommunications carriers on a competitively neutral basis."[182] For the costs of number portability and number pooling, the Commission distinguished between "carrier-specific costs," which would be borne by each individual carrier based on cost-causation principles, and "shared industry costs," which would be apportioned among carriers based on their end-user telecommunications revenues.[183] Like the shared costs of number portability and pooling, the costs of numbering administration are similarly allocated among carriers based on their end-user telecommunications revenues.[184]

67. The Commission required, consistent with the statute, that "all telecommunications carriers bear in a competitively neutral manner the costs of providing long-term number portability for interstate and intrastate calls."[185] The Commission established principles of competitive neutrality for cost distribution and recovery mechanisms related to number portability. Competitive neutrality requires that "the cost of number portability borne by each carrier does not affect significantly any carrier's ability to compete with other carriers for customers in the marketplace," and the Commission adopted a two-part test for making this determination.[186] Under this test, number portability cost distribution and recovery mechanisms: "(1) must not give one service provider an appreciable, incremental cost advantage over another service provider when competing for a specific subscriber, and (2) must not disparately affect the ability of competing service providers to earn a normal return."[187]

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[180] We anticipate that our limited, conditional waiver to Vonage may also help us develop an appropriate transitional mechanism, if any, with respect to the number of rate centers and volume of numbers involved.

[181] Letter from Harold Feld, Senior Vice President, Public Knowledge, to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200 (filed April 12, 2013).

[182] 47 U.S.C. § 251(e)(2).

[183] *See* 47 C.F.R. §§ 52.31–32; *Telephone Number Portability*, CC Docket No. 95-116, RM 8535, Third Report and Order, 13 FCC Rcd 11701, 11738, para. 68 (1998) (*Third Report and Order*).

[184] 47 C.F.R. § 52.17.

[185] *Third Report and Order*, 13 FCC Rcd at 11706, para. 8. "We conclude that 'the cost[s] of . . . number portability' that carriers must bear on a competitively neutral basis include the costs that LECs incur to meet the obligations imposed by section 251(b)(2), as well as the costs other telecommunications carriers – such as interexchange carriers (IXCs) and commercial mobile radio service (CMRS) providers – incur for the industry-wide solution to providing local number portability. We also conclude that carrier-specific costs not directly related to providing number portability are not costs of number portability and, consequently, are not subject to section 251(e)(2) and its competitive neutrality mandate." *See id*. (internal citations omitted).

[186] *Third Report and Order*, 13 FCC Rcd at 11727, para. 41 (internal citations omitted).

[187] *Id*. at 11731-32, para. 53. This test also applies to the costs for number pooling and numbering administration. *See Numbering Resource Optimization*, 15 FCC Rcd 7574 at 7665, para. 199 (2000) (applying competitive neutrality test to number pooling); *see also* 47 U.S.C. § 251(e)(2) ("The cost of establishing telecommunications *numbering administration arrangements* and number portability shall be borne by all telecommunications carriers on a competitively neutral basis as determined by the Commission.") (emphasis added).

68. We seek comment on whether we should amend our 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.[188] Specifically, for those costs of numbering administration, number portability, and number pooling that remain shared across the industry, should non-telecommunications carriers contribute and, if so, on what basis? If those costs continue to be allocated based on end-user telecommunications revenues, as required under current rules, how should we treat ports to interconnected VoIP providers from their CLEC numbering partners for these purposes? Should interconnected VoIP providers be treated the same as telecommunications carriers for purposes of numbering cost allocation or are there unique circumstances the Commission should consider? Commenting parties should include an analysis of how their proposals meet the Commission's competitive neutrality requirements. Parties should address any other issues relevant to the potential expansion of the numbering cost allocation rules to interconnected VoIP or other providers.

69. In addition, we seek comment on whether we should separately initiate a rulemaking to examine our cost allocation rules for numbering administration, portability and pooling more generally in light of changes to technology and the communications landscape.[189] The telecommunications industry has changed substantially in the 15 years since these rules were first adopted and the industry is now in the midst of several technology transitions.[190] Parties should address whether such changes warrant a different approach to cost allocation and thus, the need to revisit these issues more broadly.

C. Direct Access to Numbers for Other Purposes

1. Innovative Uses of Numbers

70. Although our proposal is limited to expanding direct access to numbers to interconnected VoIP providers, an increasingly wide array of services and applications rely on telephone numbers as the addressing system for communications. For example, home security systems,[191] programmable appliances,[192] payment authorization services,[193] text messaging services[194] and telematics[195] all make use

[188] *See infra* Section III.C.

[189] We note that there are two outstanding petitions for Commission action on numbering cost allocation. *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). *See also* Petition of Verizon and Verizon Wireless for Declaratory Ruling to Assess NPAC Database Intra-Provider Transaction Costs on the Requesting Provider, WC Docket No. 11-95 (filed May 31, 2011).

[190] *See FCC Chairman Julius Genachowski Announces Formation of 'Technology Transitions Policy Task Force*,' Public Notice (rel. Dec. 10, 2012).

[191] *See Alarm Monitoring Solutions*, PROTECT AMERICA, INC. (2012), http://www.protectamerica.com/pa/ monitoring/ security-system (last visited Nov. 26, 2012).

[192] *See, e.g.*, *Android Apps for Home Control: Apps to Control Lights, Thermostat and Appliances Using Your Android Device*, SMARTHOME: HOME AUTOMATION SUPERSTORE (2012), http://www.smarthome.com/ android apps.html (last visited Nov. 26, 2012) (selling products that offer phone-to-appliance connectivity using Wi-Fi or cellular communication); *How do you find the iPad phone number for cellular data?*, APPLE SUPPORT COMMUNITIES (Dec. 22, 2011), https://discussions.apple.com/thread/3587659?start=0&tstart=0 (last visited Nov. 26, 2012) (describing how to find the phone numbers associated with iPads).

[193] *See* Hiawatha Bray, *Smartphones Become the New Credit Cards*, BOSTON GLOBE, July 26, 2012, *available at* http://www.boston.com/business/technology/articles/2012/07/26/the_smartphone_as_a_spending_tool/ (describing the applications and programs that allow users to obtain automatic payment authorizations and make credit card payments using their smartphones); *Automatic Payment Authorization Form*, FULTON BANK (Oct. 18, 2012), http://www.fultonbank.com/ resources/pdf/switchkit/fultonbank/AutomaticPaymentForm.pdf (last visited Nov. 26, 2012) (requiring a phone number to complete the automatic payment authorization).

of telephone numbers. Some of these are voice services or include a voice component; others do not. The use of wireless telematics has boomed.[196] With the advent of SIP and the increasing popularity of IP-based communications, companies now merge cloud computing and traditional communications, integrating telephony and text messaging into web applications.[197] Providers of these innovative deployments often cannot obtain telephone numbers directly from the numbering administrators because they do not meet the certification requirements,[198] and instead obtain NANP telephone numbers by purchasing services from a telecommunications service provider.[199]

71. We seek comment on whether the Commission should expand access to numbers beyond the proposal regarding interconnected VoIP providers. For example, should the Commission expand access to numbers to VoIP providers (regardless of whether they are interconnected or one-way)? We seek comment on the types of services and applications that use numbers today, and that are likely to do so in the future. Is the lack of access to numbers a barrier to deployment of innovative services? Twilio states that making numbers more broadly available to other communications providers will lower the cost of accessing numbers and providing telecommunications services, and will encourage competition and innovation.[200] We seek comment on these assertions.

72. We seek comment on the potential benefits and risks of expanding direct access to numbers. For example, would extending access to numbers accelerate number exhaust and if so, what steps could we take to control number exhaust? What safeguards or countermeasures should the Commission utilize, and should these be specific to innovative providers? We note above that allowing interconnected VoIP providers direct access to numbers could enhance the ability to oversee number use and control exhaust. Do these same benefits apply to other types of innovative service providers that today only receive indirect access to numbers? We also seek comment on how we can maintain the integrity and oversight of our numbering system if we broadly extend direct access to numbers. For example, we seek comment on the numbers that should be provided to these other entities. Should the Commission limit distribution in some fashion? Should the Commission permit these other entities to obtain only non-geographic numbers? We note that the Alliance for Telecommunications Industry Solutions' (ATIS) Industry Numbering Committee (INC) reported on its recent efforts, at the September NANC meeting, to revise the guidelines for assignment of non-geographic numbers to reflect increased demand for their use with machine-to-machine applications.[201] Which machine uses require a telephone

(Continued from previous page)

[194] *See Refreshingly Simply Surprisingly Affordable SMS Marketing*, EZ TEXTING.COM (2012), http://www.eztexting.com/ (last visited Nov. 26, 2012) (requiring phone numbers to perform SMS marketing and group texting services).

[195] *See* Doug Newcomb, *Car Tech 101: Telematics System Basics*, EDMUNDS.COM, INC. (Aug. 25, 2011), http://www.edmunds.com/car-technology/car-tech-101-telematics-system-basics.html (noting that OnStar offers hands-free calling using cellular modems embedded within cars, allowing subscribers to make calls through the vehicle's telematics system if they are unable to use their own cell phones).

[196] *See, e.g.*, Peter Koudal et al., *OnStar: Connecting to Customers Through Telematics* 1 (2004) (Onstar has grown from 1000 customers in 1996 to over 2 million in 2004), *available at* http://www.deloitte.com/assets/Dcom-SouthAfrica/Local%20Assets/Documents/StanfordOnStarCaseStudy.pdf.

[197] *See, e.g.*, TWILIO, http://www.twilio.com (last visited Oct. 17, 2012); RIBBIT, http://www.ribbit.com (last visited Oct. 17, 2012); GETVOCAL, http://getvocal.com (last visited Oct. 17, 2012); IFBYPHONE, http://www.ifbyphone.com/ (last visited Oct. 17, 2012).

[198] *See* 47 C.F.R. § 52.15(g)(2)(i). *See supra* pp. 3–5, paras. 5–7 for a discussion of state certification requirements.

[199] *See* SBCIS Waiver Petition at 3.

[200] Twilio Comments at 4-5.

[201] ATIS, Industry Numbering Committee (INC) Report to the NANC, at 4 (Sept. 20, 2012), *available at* http://www.nanc-chair.org/docs/mtg_docs/Sep12_INC_Report.ppt.

number and why? Which ones do not? As an example, could some uses simply require an IP address or device ID to be assigned? Should machine-to-machine uses be assigned one type of number, with common 10-digit area code numbers reserved for voice communications or SMS? We seek comment generally on relevant numbering limitations that should apply to innovative providers.

73. There is a wide array of services and providers that today rely on indirect access to numbers. We recognize that those uses are likely to change and expand in unpredictable ways in the future. Are there distinguishing or limiting factors that should govern whether and how specific services or providers receive certain types of numbers? For example, should the Commission prioritize access to numbers by certain types of providers, or to services that are primarily (or exclusively) voice services? We seek comment on the relevant criteria the Commission should consider when deciding whether and on what terms to allow direct access to numbers.

74. If we grant interconnected VoIP providers and other types of entities direct access to numbers, should we establish the same conditions and criteria, regardless of the service or technology? For example, should we impose the same documentation requirements and enforcement provisions on interconnected VoIP providers and other entities?

75. Twilio states that the conditions Vonage identifies in its request for waiver, including utilization and optimization requirements, are appropriate for access by other VoIP providers.[202] We seek comment on whether these limitations are sufficient for innovative providers. What protections are necessary in order to combat potential abuses by innovative providers? What safeguards should the Commission adopt in order to promote an orderly and efficient use of numbers by innovative providers? Finally, we seek comment on the rule changes necessary to effectively allow other carriers to have access to numbers. How would the proposed rule changes in this Notice need to be modified in order for innovative providers to have access to numbers?

2. Access to p-ANI Codes for Public Safety Purposes

76. VoIP Positioning Center (VPC) providers typically work with interconnected VoIP providers to provide E911 access to customers. When an interconnected VoIP customer makes a 911 call, the interconnected VoIP provider's softswitch or call controller sends a query to the VPC, asking for information as to where to route the 911 call. The VPC responds with call routing instructions for the softswitch and a ten-digit p-ANI code, selected from a pool of numbers for the appropriate PSAP. The softswitch or call controller does not itself use p-ANI for routing, but instead forwards it to various other elements of the an E911 system, such as the Selective Router, where it is used for proper routing of the call and determination of the caller's location for the PSAP.

77. We seek comment on whether the Commission should modify section 52.15(g)(2)(i) of our rules[203] to allow VPC providers[204] direct access to p-ANI codes, for the purpose of providing 911 and E911 service. As discussed in the accompanying *Waiver Order*,[205] the Commission finds good cause to grant the petition of TeleCommunication Systems, Inc. (TCS),[206] allowing it direct access to p-ANI codes

[202] Twilio Comments at 6.

[203] *See* 47 C.F.R. §52.15(g)(2)(i).

[204] VPC providers are entities that help interconnected VoIP providers deliver 911 calls to the appropriate public safety answering point. Among other things, VPCs provide such capabilities as location-based call routing and real-time delivery to the PSAP of the caller's location information.

[205] *See infra*, paras. 109–114.

[206] TCS/HBF Petition; Vixxi Petition.

from the Routing Number Administrator (RNA)[207] in states where it is unable to obtain certification while the Commission adopts final rules for direct access to numbers. We now consider whether all VPC providers should be allowed direct access to p-ANI codes.

78. Under section 52.15(g)(2)(i) of our rules, applicants for numbers, including p-ANI codes, must provide evidence that they are authorized to provide service in the area in which they are requesting numbers.[208] However, in October 2008, as part of its implementation of the NET 911 Act, the Commission granted interconnected VoIP providers the right to access p-ANI codes, without such authorization, for the purpose of providing 911 and E911 service.[209]

79. We seek comment on whether section 52.15(g)(2)(i) should be modified to allow all providers of VPC service to directly access p-ANI codes. Would allowing VPC providers access to p-ANI codes enhance public safety by further ensuring that emergency calls are properly routed to trained responders of the PSAPs? Are there unique technical characteristics of p-ANI codes that make them different from the numbers currently included in section 52.15(g)(2)(i).[210] Are there any cost benefits to allowing VPC providers direct access to p-ANI codes? Furthermore, would such access help encourage the continued growth of interconnected VoIP services?

80. In the *NET 911 Order*, the Commission determined that it has the authority to regulate VPC providers so they can perform their obligations under the NET 911 Act.[211] We seek comment on whether there are distinctions the Commission should consider between VPC providers and interconnected VoIP providers with respect to the need to access p-ANI codes. Are there any technical or policy reasons why VPC providers should be denied direct access to p-ANI codes while interconnected VoIP providers have access under the Commission's *NET 911 Order*?

81. We also seek comment on whether any evidence of authorization should be required for VPC providers to access p-ANI codes. TCS argued, in seeking a waiver of our rule, that if state competitive local exchange carrier certification is required, then obtaining one state certification should be adequate for a waiver.[212] Should section 52.15(g)(2)(i) be modified to require VPC providers to provide the RNA with state certification from at least one state? Alternatively, should a "national authorization" be provided to VPC providers from a public safety organization? Should the Commission consider any other factors, such as whether VPC providers are current on state and local emergency fees and any appropriate universal service fund contributions in granting access to p-ANI codes? Are there other obligations on which we seek comment above for VoIP provider access to numbers that should apply as well to VPC providers?

82. We conclude in the accompanying *Waiver Order* that there is good cause to grant Petitioners a waiver of rule 52.15(g)(2)(i) to provide 911 and E911 service. We seek to develop a more

[207] In March 2012, Neustar's Pooling Administrator assumed the responsibilities of the permanent p-ANI Administrator, also known as the Routing Number Administrator. *See* Neustar Memo, FCC Approved Neustar's Permanent Routing Number Administrator Change Order Proposal #19 (dated June 20, 2011) *available at* http://www.nationalpooling.com/tools/archives/change-orders/2011/index.htm (last visited Oct. 16, 2012).

[208] *See* 47 C.F.R. §52.15(g)(2)(i).

[209] *Implementation of the NET 911 Improvement Act of 2008*, WC Docket No. 08-171, Report and Order, 23 FCC Rcd 15884, 15892-97, paras. 21-29 (2008) (*NET 911 Order*).

[210] Reply Comments of Telecommunication Systems, Inc. WC Docket Nos. 07-243, 07-244, 04-36, CC Docket Nos. 95-116, 99-200 at 7 (filed Apr. 21, 2008) (arguing that "ESOKs are 'non-dialable' numbers and should not really be considered numbering resources.").

[211] *NET 911 Order*, 23 FCC Rcd at 15897, para. 29.

[212] *Id*. at 13.

complete record on the issues discussed above and any other technical or policy issues the Commission should consider specific to VPC providers' direct access to p-ANI.

D. Legal Authority

83. In this Part, we address and seek comment on the Commission's legal authority to adopt the various requirements we propose to impose on interconnected VoIP providers obtaining direct access to numbers.

84. Section 251(e)(1) of the Act gives the Commission plenary authority over that portion of the NANP that pertains to the United States,[213] and the Commission retains "authority to set policy with respect to all facets of numbering administration in the United States."[214] The Commission has concluded that the plenary numbering authority set forth in section 251(e)(1) of the Act provides ample authority for the Commission to extend numbering-related requirements to interconnected VoIP providers that obtain telephone numbers directly or indirectly, regardless of the statutory classification of interconnected VoIP service.[215] Thus, because the Commission has plenary authority over the administration of NANP numbers in the United States, any entity that participates in that administration—including VoIP providers that obtain numbers, whether or not they are carriers—must adhere to the Commission's numbering rules. We believe that this rationale applies equally to the situation here. Thus, we believe that the Commission has authority under section 251(e)(1) to extend the numbering requirements discussed above to interconnected VoIP providers, and seek comment on this analysis.[216]

85. We also believe that the Commission has additional authority under Title I of the Act to impose numbering obligations on interconnected VoIP providers. Ancillary authority may be employed when "(1) the Commission's general jurisdictional grant under Title 1 covers the regulated subject and (2) the regulations are reasonably ancillary to the Commission's effective performance of its statutorily mandated responsibilities."[217] As to the first predicate, as we have concluded in numerous orders, interconnected VoIP services fall within the subject-matter jurisdiction granted to the Commission in the Act.[218] As to the second predicate, we seek comment on whether imposing numbering obligations on

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[213] 47 U.S.C. § 251(e)(1) (providing that "[t]he Commission shall have exclusive jurisdiction over those portions of the North American Numbering Plan that pertain to the United States").

[214] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, Area Code Relief Plan for Dallas and Houston, Ordered by the Public Utility Commission of Texas, Administration of the North American Numbering Plan, Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech-Illinois*, CC Docket No. 96-98, CC Docket No. 95-185, NSD File No. 96-8, CC Docket No. 92-237, IAD File No. 94-102, Second Report and Order and Memorandum Opinion and Order, 11 FCC Rcd 19392, 19512, para. 271 (1996) (explaining that by retaining exclusive jurisdiction over numbering policy the Commission preserves its ability to act flexibly and expeditiously).

[215] *See VoIP 911 Order*, 20 FCC Rcd at 10265, para. 33 (relying on the Commission's plenary authority over U.S. NANP numbers, particularly Congress' direction to use that authority regarding 911, to impose 911 obligations on interconnected VoIP providers, given interconnected VoIP providers' use of NANP numbers to provide service).

[216] *Id*. (extending LNP requirements to interconnected VoIP providers on the basis of section 251(e)(1) plenary authority).

[217] *American Library Ass'n v. FCC*, 406 F.3d 689, 691-92 (D.C. Cir. 2005)). *See also*, *e.g.*, *United States v. Southwestern Cable Co.*, 392 U.S. 157, 177–78 (1968) (upholding certain regulations applied to cable television systems at a time before the Commission had an express congressional grant of regulatory authority over that medium).

[218] *See, e.g.*, *CPNI Order*, 22 FCC Rcd at 6955–56, para. 55; *2006 Interim Contribution Methodology Order*, 21 FCC Rcd at 7542, para. 47; *VoIP 911 Order*, 20 FCC Rcd at 1026–62, para. 28 ("[I]nterconnected VoIP services are covered by the statutory definitions of 'wire communication' and/or 'radio communication' because they involve 'transmission of [voice] by aid of wire, cable, or other like connection . . .' and/or 'transmission by radio . . .' of

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interconnected VoIP providers would be reasonably ancillary to the Commission's performance of particular statutory duties, such as those under sections 251 and 201 of the Act. For example, adopting numbering obligations for interconnected VoIP providers that obtain direct access to numbers is necessary to ensure a level playing field[219] and foster competition by eliminating barriers to, and incenting development of, innovative IP services.[220] We thus seek comment on whether, for these or other reasons, imposing numbering obligations on interconnected VoIP providers that get direct access to numbers are reasonably ancillary to the Commission's responsibilities to ensure that numbers are made available on an "equitable" basis,[221] to advance the number-portability requirements of section 251,[222] or to help ensure just and reasonable rates and practices for voice telecommunications services regulated under section 201 through market discipline from interconnected VoIP services.[223] We also seek comment on other possible bases for the Commission to exercise ancillary authority here.

86. We note further that our proposed rules are consistent with other statutory provisions governing the Commission. For example, section 706(a) of the Telecommunications Act of 1996 directs the Commission to encourage the deployment of advanced telecommunications capability to all Americans by using measures that "promote competition in the local telecommunications market."[224] Permitting interconnected VoIP providers to obtain direct access to telephone numbers may encourage more VoIP providers to enter the market, enabling consumers to enjoy more competitive service offerings. This will in turn spur consumer demand for these services, thereby increasing demand for

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voice. Therefore, these services come within the scope of the Commission's subject matter jurisdiction granted in section 2(a) of the Act.").

[219] *See* Letter from James Falvey, Counsel, CLEC Participants, to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200, at 1 (filed July 19, 2012) (CLEC Participants July 19 *Ex Parte* Letter) (noting that granting waivers of section 52.15(g)(2)(i) of the Commission's rules for direct access to numbering resources would be "discriminatory vis á vis carriers that continue to comply with both federal and state rules"); Letter from James Bradford Ramsay, General Counsel, National Association of Regulatory Utility Commissioners (NARUC), to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200, at 2 (filed July 19, 2012) (NARUC Jul. 19 *Ex Parte* Letter) (stating that the Commission "should not favor one competitor other another. . . by making sure they don't have to comply with the same rules as their competitors"); Letter from Stephen G. Kraskin, Counsel, Rural Broadband Alliance (RBA), to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200, at 2–3 (filed July 2, 2012) (arguing that the non-authorized providers seeking direct access to numbers "essentially want the rights associated with the status of an authorized provider while avoiding the responsibilities that go with those rights"); Letter from James Falvey, Counsel, CLEC Participants, to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200, at 1 (filed June 13, 2012) (emphasizing that granting non-carriers direct access to numbering resources "would be discriminatory, essentially providing carrier rights to certain non-carriers that do not also shoulder carrier obligations").

[220] Letter from Brita D. Strandberg, Counsel to Vonage Holdings Corp. to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200, at 4–5 (filed Nov. 11, 2011) (Vonage Nov. 11 *Ex Parte* Letter); *see also* Letter from Brita D. Strandberg, Counsel to Vonage Holdings Corp., to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200, at 1–2 (filed Dec. 6, 2011).

[221] 47 U.S.C. § 251(e)(1).

[222] The Commission adopted its existing local number portability rules governing interconnected VoIP providers as, among other things, reasonably ancillary to its responsibilities under sections 251(b)(2). *VoIP LNP Order*, 22 FCC Rcd at 19545–47, paras. 25–27.

[223] *See Preserving the Open Internet; Broadband Industry Practices*, GN Docket No. 09-191, WC Docket No. 07-52, Report and Order, 25 FCC Rcd 17905, 17972, para. 125 (2010) (*Open Internet Order*).

[224] 47 U.S.C. § 1302(a). Section 706 of the Telecommunications Act of 1996, Pub. L. No. 104-104, § 706, 110 Stat. 56, 153 (1996) (1996 Act), as amended by the Broadband Data Improvement Act (BDIA), Pub. L. No. 110-385, 122 Stat. 4096 (2008), is now codified in Title 47, Chapter 12 of the United States Code. *See* 47 U.S.C. § 1301 *et seq*.

broadband connections and consequently encouraging more broadband investment and deployment consistent with the goals of section 706.[225]

IV. ORDER

87. In this Order, we establish a limited trial of direct access to numbers. We grant Vonage and other interconnected VoIP providers that have pending petitions for waiver of section 52.15(g)(2)(i) of the Commission's rules, and that meet the terms and conditions outlined below, a time-limited waiver, subject to a number of conditions and limitations, to obtain a small pool of telephone numbers directly from the administrators for use in providing IP services, including VoIP services, on a commercial basis to residential and business customers.

88. We grant this waiver to permit us to conduct a trial to help inform our decision on whether, and if so how, the Commission should amend the rules to allow interconnected VoIP providers to obtain telephone numbers directly. The trial strictly limits the amount of numbers Vonage and other VoIP providers may obtain—representing a small fraction of their total volume of numbers—and requires providers to comply with the Commission's number utilization and optimization requirements and industry guidelines and practices, including advance notice of numbering requests to states. During the trial, Vonage and other participants will be subject to monthly reporting requirements that will be made public to provide an opportunity for the state commissions, industry and general public to comment. Moreover, we make clear that providers participating in the trial may be required to return numbers to a LEC partner if problems arise. With these safeguards, and subject to the conditions described below, we expect that the narrowly tailored trial will provide valuable technical insight for the Commission to assess whether amending our rules to provide direct access to numbers routinely will raise issues relating to number exhaust, number porting, VoIP interconnection, and intercarrier compensation, and if so, how those issues may be efficiently addressed. Within 45 days of completion of the trial, the Bureau will report to the Commission on the results of the trial. The report will be placed in the record and state commissions, the industry and general public will have 30 days to provide comments on the report.

89. We limit this trial to VoIP providers that have already sought waivers to obtain direct access to numbers. With the exception of Vonage, those providers have not specifically committed to comply with the terms or conditions set forth below.[226] We expect that we could obtain useful information from a trial involving additional VoIP providers, however. For example, different providers might highlight unique problems or develop solutions to problems that would assist us in crafting final rules. Therefore, other interconnected VoIP providers that have pending petitions for waiver of section 52.15(g)(2)(i) of the Commission's rules may participate on the same terms and conditions and proportionate scale as Vonage so long as they file a proposal with the Wireline Competition Bureau and proceed on the same schedule as Vonage does.[227] The Bureau may reject any proposal from a provider

[225] *See Availability of Advanced Telecommunications Capability in the United States*, Fourth Report to Congress, GN Docket No. 04-54, 19 FCC Rcd 20540, 20578 (2004) ("[S]ubscribership to broadband services will increase in the future as new applications that require broadband access, *such as VoIP*, are introduced into the marketplace, and consumers become more aware of such applications.") (emphasis added).

[226] The waiver we grant is not a blanket waiver, as Vonage and other VoIP providers requested. Rather, it is circumscribed in a variety of ways described herein.

[227] There are a substantial number of pending waiver requests, which will give us adequate opportunity to trial a variety of factual scenarios. Because these petitions have been pending for months or years, we believe that all potentially interested providers have had ample time to request a waiver. We therefore limit this grant to pending petitioners. Moreover, the Commission has provided and received comment on those waiver petitions. *See Wireline Competition Bureau Seeks to Refresh Record on Petitions for Waiver of Commission's Rules Regarding Access to Numbering Resources*, CC Docket No. 99-200, Public Notice, 26 FCC Rcd 17039 (2011); *Wireline Competition Bureau Seeks Comment on SmartEdgeNet, LLC and Millicorp, LLC Petitions for Limited Waiver of Commission's Rules Regarding Access to Telephone Numbers*, CC Docket No. 99-200, Public Notice, 27 FCC Rcd 4188 (2012);

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that is "red-lighted" by the Commission, is out of compliance with any Commission obligation to which it is subject, or is otherwise determined to pose a risk to consumers that is not outweighed by the benefits of permitting the VoIP provider to participate in the trial.

90. In this Order, we also grant TCS, a provider of VPC service,[228] a narrow waiver to allow it to obtain p-ANI codes directly from the RNA for the purpose of providing 911 and E911 service, in states where TCS is unable to obtain certification because TCS has either been denied certification or can demonstrate that a state does not certify VPC providers.

91. The standard of review for waiver of the Commission's rules is well settled. The Commission may waive its rules when good cause is demonstrated.[229] The Commission may exercise its discretion to waive a rule where the particular facts make strict compliance inconsistent with the public interest.[230] In doing so, the Commission may take into account considerations of hardship, equity, or more effective implementation of overall policy on an individual basis.[231] Commission rules are presumed valid, however, and an applicant for waiver bears a heavy burden.[232] Waiver of the Commission's rules is therefore appropriate only if special circumstances warrant a deviation from the general rule, and such a deviation will serve the public interest.[233]

A. Access to Numbers Trial

1. Background

92. On March 5, 2005, Vonage filed a petition requesting a waiver of section 52.15(g)(2)(i) of the Commission's rules so that it may obtain from the numbering administrator telephone numbers to use in deploying IP-enabled services, including VoIP services, on a commercial basis to residential and business customers. Vonage requested a waiver until the Commission adopts final numbering rules in the *IP-Enabled Services* proceeding[234] and stated that it would comply with the conditions the Commission set forth in the *SBCIS Waiver Order*.[235]

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Wireline Competition Bureau Seeks Comment on Bandwidth.com, Inc. Petition for Limited Waiver of Commission's Rules Regarding Access to Telephone Numbers, CC Docket No. 99-200, Public Notice, DA 12-1288 (2012). Thus interested parties have had an opportunity to comment about specific petitioners.

[228] *See supra* para. 76.

[229] 47 C.F.R. § 1.3; *see also WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969), *cert denied*, 409 U.S. 1027 (1972) (*WAIT Radio*).

[230] *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990) (*Northeast Cellular*).

[231] *WAIT Radio*, 418 F.2d at 1159; *Northeast Cellular*, 897 F.2d at 1166.

[232] *WAIT Radio*, 418 F.2d at 1157.

[233] *Id.* at 1159.

[234] In the *IP-Enabled Services NPRM*, the Commission sought comment on whether any action relating to numbering resources is desirable to facilitate or at least not impede the growth of IP-enabled services, while at the same time continuing to maximize the use and life of numbering resources in the NANP. *IP-Enabled Services NPRM*, 19 FCC Rcd at 4914, para. 76.

[235] Vonage Petition at 2. The Commission granted the SBCIS waiver request subject to compliance with (1) the Commission's number utilization and optimization requirements, (2) numbering authority delegated to the states, and (3) industry guidelines and practices, including filing NRUF Reports. The Commission also required SBCIS to file requests for numbers with the Commission and the relevant state commission at least 30 days prior to requesting numbers from the Administrators. Finally, the Commission required SBCIS to comply with the requirement in 47 C.F.R. § 52.15(g)(2)(ii) that it be capable of providing service within 60 days of activating the numbers it requests.

93. Vonage renewed its request on March 8, 2011, noting that the opportunities to provide consumers with advanced features and services continue to grow and maintaining that its request is consistent with the Commission's approach to numbering and porting obligations for interconnected VoIP providers.[236] On November 11, 2011, Vonage supplemented its request and offered to satisfy additional conditions.[237] On December 27, 2011, the Bureau released a Public Notice seeking to refresh the record on Vonage's petition and on pending petitions for limited waiver of 52.15(g)(2)(ii) filed by other parties.[238] Vonage filed several *ex parte* letters explaining why it believes that granting its petition would serve the public interest and responding to commenters' concerns about, *inter alia*, number porting, interconnection, and intercarrier compensation.[239]

2. Discussion

94. We find that good cause exists to grant Vonage and other interconnected VoIP providers with pending petitions a limited, conditional waiver of section 52.15(g)(2)(i) to permit them to obtain telephone numbers directly from the number administrator, subject to the conditions set forth in the *SBCIS Waiver Order* and various commitments detailed below.[240] We grant this limited, conditional waiver so the Commission may gauge the risks and benefits of allowing interconnected VoIP providers to obtain direct access to numbers as part of a limited trial.[241] This trial will inform the Commission's decisionmaking by providing real-world data on several issues raised in the proceeding by parties and allow us to ensure that we have identified and resolved any potential technical complications, such as routing, intercarrier compensation, and number utilization, about which parties have expressed concern.[242]

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[236] Letter from Brita D. Strandberg, Counsel to Vonage Holdings Corp. to Marlene H. Dortch, Secretary, Federal Communications Commission (file Mar. 8, 2011) (Vonage Renewal).

[237] Letter from Brita D. Strandberg, Counsel to Vonage Holdings Corp. to Marlene H. Dortch, Secretary, Federal Communications Commission (filed Nov. 11, 2011) (Vonage Supplement). Namely, it offered to maintain at least a 65 percent number utilization rate across its telephone number inventory; to offer IP interconnection to other carriers and providers; to comply with the Commission's number administration requirements and ensure appropriate telephone number management; and to provide the Commission with a migration plan for its transition to direct access to numbers within 90 days of commencing the migration, and every 90 days thereafter for 18 months.

[238] *Wireline Competition Bureau Seeks to Refresh Record on Petitions for Waiver of Commission's Rules Regarding Access to Numbering Resources*, CC Docket No. 99-200, Public Notice, 26 FCC Rcd 17039 (2011). On January 6, 2012, the NARUC sought an extension of the deadline to respond to the Public Notice. On January 9, 2012, the Bureau granted a 14-day extension of the comment deadline. *Numbering Resource Optimization*, CC Docket No. 99-200, Order, 27 FCC Rcd 193 (2012).

[239] *See, e.g.*, Vonage July 31 *Ex Parte* Letter.

[240] The Commission emphasizes that it is not deciding in this Order whether VoIP is an information service or a telecommunications service.

[241] As noted above, other interconnected VoIP providers may obtain access to numbers on the same terms, conditions, and schedule as Vonage. *See supra* para. 89.

[242] The Commission has used pilot programs and trials in the past as tests to enable the Commission to gather data, test technical concerns and develop appropriate policies and rules. *See, e.g., Office of Engineering and Technology Announces the Opening of Public Testing for Spectrum Bridge's TV Band Database System*, ET Docket No. 04-186, Public Notice, 26 FCC Rcd 12906 (2011); *DTV Transition Premiers in Wilmington, North Carolina: DTV Test Pilot Program to Begin September 8, 2008*, (May 8, 2008), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-282032A1.pdf (last visited Apr. 9, 2013); *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Order, 21 FCC Rcd 11111 (2006). The trial we approve today is tailored to the circumstances of the particular issues that we would like to test and is not intended to prejudge how we will address other such requests in the future, including those requests related to the work of the Technology Transitions Policy Task Force.

Moreover, the Commission has established robust conditions and safeguards to quickly address any concerns in the context of this narrow trial.[243]

95. Several competitive LECs including Bandwidth.Com, Voice Services, and Level 3 Communications, LLC ("CLEC Participants") urge the Commission not to grant a waiver or conduct a trial concurrent with the rulemaking.[244] They assert that it is inappropriate to conduct such a trial before the Commission has made a finding that "it is good policy to provide numbers to non-carriers" or has established rules that will protect consumers and other companies.[245] We disagree. The record on access to numbers contains questions on a host of technical issues, and the trial we establish here will provide critical information as we consider the questions raised in this Notice. Delaying the trial until after the NPRM has been completed would needlessly delay resolution of these issues.

96. The Commission's authority to grant waivers of its own rules, and the associated waiver standard which we apply here, are clear and well-tested in the courts.[246] As explained in this part, we find that standard to be met with regard to Vonage and other interconnected VoIP providers making the same commitments: we impose a variety of conditions as part of this limited trial that will protect consumers and companies. Moreover, even within the six-month trial, Vonage may be required to return numbers to a LEC partner if problems arise. We are confident that consumers and companies are thus adequately protected and that "good cause" for a waiver exists.[247] We further disagree with the CLEC Participants that a waiver or waivers "will effectively change the rules" ahead of our rulemaking. These waivers do not prejudge the outcome of the NPRM. To the contrary, the waivers we grant are very limited in scope and duration. The trial we establish will, however, provider valuable technical data to the Commission as it considers the policy questions raised in the NRPM. Interested parties will have an opportunity to comment on the trial and its results before the Commission makes any decision regarding final rules.

97. In addition, the CLEC Participants are mistaken that we have proceeded to act on the waiver petitions without notice and an opportunity to comment. Vonage's waiver request was filed in 2005, and the Bureau sought comment on it at that time. Vonage filed a "renewal" of its request in 2011 and we sought comment again to refresh the record on all pending waiver requests.[248] Indeed, the docket reflects more than 200 filings from many different entities regarding the merits of granting a waiver to Vonage, constituting a robust record on which to make our decision today to grant the waiver.

98. We tailor the trial to provide a circumscribed and informative test case that will allow the Commission to identify any problems and create industry-wide rules to address such issues. We therefore limit the duration and geographic scope of the trial. We also impose on Vonage (and other interconnected providers with pending petitions) a number of conditions that are similar to conditions we are exploring in

[243] The Commission has in the past granted waivers to conduct limited trials while more general reforms are under consideration. *See, e.g.*, *Schools and Libraries Universal Service Support Mechanism, A National Broadband Plan for Our Future*, CC Docket No. 02-6 and GN Docket No. 09-51, Sixth Report and Order, 25 FCC Rcd 18762 (2010).

[244] *See* Letter from James C. Falvey, Counsel for CLEC Participants, to Marlene H. Dortch, Secretary, Federal Communications Commission (April 10, 2013) (CLEC Participants April 10, 2013 *Ex Parte* Letter); *see also* CLEC Participants Comments at 3 (maintaining that the Commission should deny the waiver petitions and issue a notice of proposed rulemaking); NCTA Comments at 1-2 (arguing that rather than addressing individual waivers, the Commission should commence a rulemaking proceeding to address the direct access of numbers to VoIP providers); NTCA Comments at 1 (urging the Commission to deny the petitions for waiver and commence a rulemaking proceeding); NARUC March 30 *Ex Parte* Letter at 7 (cautioning the Commission against proceeding via a waiver proceeding).

[245] *See* CLEC Participants April 10, 2013 *Ex Parte* Letter at 2.

[246] *See WAIT Radio*, 418 F.2d at 1159; *Northeast Cellular*, 897 F.2d at 1166.

[247] 47 C.F.R. § 1.3.

[248] *See supra* n.39. The Commission also requested comment on subsequent waiver petitions. *See supra* n.61.

the rulemaking. These conditions are thus designed not only to protect the public interest but to maximize the probative value of the trial and help us identify the terms and conditions under which we might expand direct access to numbers.

99. ***Scope of Trial.*** We limit the scope of the trial in several ways. We describe below the limits as they apply to Vonage. As described above, however, other interconnected VoIP providers with pending petitions may also participate in the trial, provided they comply with the terms below, including filing proposal with the Wireline Competition Bureau and proceeding on the same schedule as Vonage does. The Bureau may reject any proposal from a provider that is "red-lighted" by the Commission, is out of compliance with any Commission obligation to which it is subject, or is otherwise determined to pose a risk that is not outweighed by the benefits of permitting the VoIP provider to participate in the trial.

100. First, under the trial, Vonage may obtain up to (1) twenty 1,000-blocks of new numbers in pooling rate centers or LATAs, or (2) nineteen 1,000-blocks in pooling rate centers or LATAs and one 10,000-block in a non-pooling rate center or LATA.[249] In addition, up to 125,000 numbers may be reassigned from Vonage's CLEC partners directly to Vonage. This will enable Vonage to test porting processes for existing and new customers, as well as trial the process for assigning numbers to non-ported customers. By design, these numerical limits will also limit the geographic scope of the trial for Vonage. Other providers interested in participating in the trial may obtain a quantity of numbers proportionate to their overall scale. Trial participants other than Vonage may obtain direct access to numbers to port up to five percent of their interconnected VoIP service customers as of the date of the release of this order.[250] All such providers may obtain one 1,000- or 10,000-block of numbers in one rate center (pooling or non-pooling, respectively), and an additional 1,000 block in a pooling rate center for every 6,500 numbers that can be ported (rounded down).[251]

101. Second, Vonage must submit to the Wireline Competition Bureau and each relevant state commission a numbering proposal within 30 days of the release of this order. That proposal must (1) include a certification that Vonage will comply with the terms and conditions of this waiver, (2) identify the rate centers or LATAs in which it wishes to have numbers directly assigned to it, and note how many numbers in each rate center or LATA it proposes to receive as new numbers and how many it proposes to port in from existing or new customers,[252] and (3) describe the phase-in process to implement the trial.[253] The proposal will be approved 30 days after filing unless the Bureau finds that the proposal does not comply with the requirements of this Order. Vonage may not request or obtain direct access to numbers until its proposal is approved.

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[249] Vonage can use these blocks of new numbers to sign up a new customer that is changing providers or to give a number to a customer does not yet have a number.

[250] The limits we impose on Vonage represent less than 5 percent of its existing numbers, and approximately 5 percent of its total subscribers. *See* Vonage Holding Corp. Reports Fourth Quarter and Full Year 2012 Results, http://pr.vonage.com/releasedetail.cfm?ReleaseID=739997 (last visited April 18, 2013); Letter from Brita D. Strandberg, Counsel to Vonage Holdings Corp., to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200, at 5-6 (filed Nov. 11, 2011) (noting that Vonage maintains at least 65% utilization across its telephone number inventory).

[251] That is, a provider that may port in 5,000 numbers may also obtain new numbers in one rate center; a provider that may port in 10,000 numbers may obtain new numbers in two rate centers; and a provider that may port in 15,000 numbers may obtain new numbers in three rate centers.

[252] *See* Vonage Supplement at 5-6; Vonage July 31 *Ex Parte* Letter at 4-6 (committing, in connection with its waiver request, to provide 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).

[253] The plans, as well as the reports described in paragraph 101, will be available for public comment. Even if the plans and reports contain confidential information, interested parties may review the information pursuant to a Protective Order.

102. Third, the trial will remain in effect for six months from the date when Vonage receives Bureau approval of its proposal to the Bureau. At the end of that time, the trial will expire and Vonage may not obtain direct access to additional numbers under this time-limited waiver.[254]

103. Fourth, to permit states, the public, and the Commission to monitor the impact of the trial, Vonage must file monthly reports beginning 60 days after Vonage requests direct access to numbers from a numbering administrator. These reports must include: (1) the total of new numbers placed in service by Vonage; (2) Vonage's total number of port-in requests (including existing Vonage customers as well as newly won customers), and the percentage of successful ports-in; (3) the number of requests to port out from Vonage a number that it holds directly rather than through a CLEC partner, and the percentage of successful ports-out; (4) the total number of routing failures, along with the causes of those failures; and (5) a description of any billing or compensation disputes. These reports will be public, and entered into the record of the attached NPRM to provide an opportunity for public comment.

104. We find that these limitations appropriately balance our goal of obtaining useful, real-world data without prejudging the questions raised above regarding industry-wide changes. Finally, we establish safeguards in the event the Commission has concerns that Vonage's actions during this trial are inconsistent with our rules, policies, or the conditions set forth herein. Specifically, under such circumstances, immediately upon a directive from the Commission (or the Wireline Competition Bureau) Vonage must make arrangements to port to a carrier numbering partner any numbers already in use by customers, promptly and in a manner that does not disrupt service to consumers or other providers[255] and to return to the number administrators any numbers not yet in use by customers.

105. ***Conditions of Trial.*** Vonage has committed to comply with the conditions the Commission set forth in the *SBCIS Waiver Order*[256] and to comply with a number of additional requirements intended to address commenters' concerns.[257] We agree that these conditions will ensure that the public interest is protected, and will help test possible terms and conditions that might attach to a rule change. We therefore condition our trial waiver of section 52.15(g)(2)(i) on Vonage's compliance with the following requirements. Vonage must satisfy the Commission's number utilization and optimization requirements and industry guidelines and practices,[258] including abiding by the numbering authority delegated to state commissions and filing NRUF Reports.[259]

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[254] We note that the expiration of the waiver alone does not require Vonage to return the numbers it has received under the waiver. But the Commission reserves the right to order the return of such numbers. *See supra* para. 96.

[255] For numbers already assigned to end users, we require Vonage to port those numbers to a carrier that can obtain numbers directly from the administrators.

[256] The Commission granted the SBCIS waiver request subject to compliance with (1) the Commission's number utilization and optimization requirements; (2) numbering authority delegated to the states; and (3) industry guidelines and practices, including filing NRUF Reports. The Commission also requires SBCIS to file requests for numbers with the Commission and the relevant state commission at least 30 days prior to requesting numbers from the Administrators. *SBCIS Waiver Order*, 20 FCC Rcd at 2959, para. 4. Finally, the Commission requires SBCIS to comply with the requirement in 47 C.F.R. § 52.15(g)(2)(ii) that it be capable of providing service within 60 days of activating the numbers it requests. *Id.* at 2962, para. 10.

[257] In its pleadings, Vonage noted its willingness to comply with federal and state numbering requirements. *See, e.g.*, Vonage Comments at 4; Letter from Brita D. Strandberg, Counsel to Vonage Holdings Corp. to Marlene H. Dortch, Secretary, Federal Communications Commission (June 27, 2012). Commenters agree that the waivers should be subject to the conditions set forth in the *SBCIS Waiver Order*. *See, e.g.*, AT&T at 2; Wisconsin PSC at 4; Vonage Renewal at 1.

[258] *See* 47 C.F.R. Part 52.

[259] *See* 47 C.F.R. § 52.15(f)(6) (requiring carriers to file NRUF reports). Requiring Vonage to comply with numbering requirements will help alleviate concerns with numbering exhaust. For example, the NRUF reporting requirement will allow the Commission to better monitor Vonage's number utilization. Most VoIP providers'

(continued . . .)

106. In addition to committing to comply with the requirements of the *SBCIS Waiver Order*, Vonage committed to maintain at least 65 percent number utilization across its telephone number inventory; offer IP interconnection to other carriers and providers; work to ensure that its carrier partners comply with applicable law, including intercarrier compensation obligations; and comply with the Commission's numbering requirements.[260] We condition Vonage's limited waiver of section 52.15(g)(2)(i) on its adherence to these commitments. This will help us assess their benefit and efficacy as permanent rules.

107. In addition to the above conditions proposed by Vonage, some state commissions recommended additional conditions to ensure efficient use of telephone numbers. We agree that many of those conditions will help protect the efficient use of valuable, and limited, numbers, and will help our assessment of whether and how to modify our rules governing access to numbers. Accordingly, we require Vonage to comply with the following conditions: (1) provide the relevant State commission with regulatory and numbering contacts when it requests numbers in that State; (2) consolidate and report all numbers under its own unique Operating Company Number (OCN);[261] (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.[262] As noted above, Vonage is required to comply with specific reporting requirements regarding the progress of the trial. In addition, we invite parties to submit information regarding the trial. We are particularly interested in the experiences of customers and service providers that are directly affected by Vonage receiving direct access to numbers. Commenters should address any benefits or concerns with the trial as well as the effectiveness of the conditions. Upon completion of the trial, the Bureau will report to the Commission on the results of the trial. The report will be placed in the record and state commissions, the industry and general public may comment on the report. We will consider those comments when we evaluate the trial and develop rules with respect to expanding access to numbers.

108. Pursuant to the parameters and the conditions set forth herein, we find that good cause exists to grant Vonage a waiver of section 52.15(g)(2)(i) of the Commission's rules in order to conduct a limited technical trial.

B. TCS Waiver Request

1. Background

109. On February 20, 2007, TCS filed a petition requesting that the Commission waive section 52.15(g)(2)(i) of our rules and find that TCS, as a provider of VPC service, is an eligible user of p-ANI codes without having to demonstrate that it is certified in all 50 states.[263] On April 21, 2008, TCS filed reply comments, arguing that, although states have an interest in p-ANI utilization, state certification is

(Continued from previous page)
utilization information is embedded in the NRUF data of the LEC from whom it purchases a Primary Rate Interface (PRI) line.

[260] Vonage Supplement at 5–6; Vonage July 31 *Ex Parte* Letter at 4–6.

[261] The Wisconsin PUC proposes this measure because of the importance of accurate and complete utilization and forecast data. Consolidating and reporting all numbers under its own OCN will make it easier to determine the actual utilization rates within a given state. Wisconsin PUC Comments at 5.

[262] Maintaining the original rate center designation is important in order to facilitate number porting requests. Wisconsin PUC Comments at 7.

[263] *See* Petition of TeleCommunicatons Systems, Inc. and HBF Group, Inc. for Waiver of Part 52 of the Commission Rules, CC Docket No. 99-200 (filed Feb. 20, 2007) (TCS Waiver). Although TCS filed jointly with HBF, Intrado, Inc. acquired HBF in April 2008. Therefore, we only address the petition as it applies to TCS.

not necessary to protect those interests.[264] Moreover, TCS argues that if state CLEC certification is required, then obtaining one state certification should be adequate to access p-ANI codes throughout the country.[265] TCS also argues that if some form of certification is required, it should come from the Commission or a national public safety organization.[266]

110. In October 2008, as part of its implementation of the NET 911 Act, the Commission granted interconnected VoIP providers access to p-ANI codes for the purpose of providing 911 and E911 service.[267] In March 2012, Neustar's Pooling Administrator assumed the responsibilities of the permanent p-ANI Administrator, also known as the Routing Number Administrator (RNA).[268] Upon implementation of the new permanent p-ANI administrator, entities that had been providing p-ANI resources to others, or that had been maintaining their own inventory of p-ANIs, had to transition administration and control of formerly assigned p-ANIs to the RNA.[269]

111. In 2012, TCS refreshed the record in this proceeding and announced that it was certified as a competitive local exchange carrier in 42 states and could obtain p-ANI codes directly for use in those states. However, TCS states that it cannot obtain p-ANI codes in all states due to state certification issues.[270] Moreover, TCS notes that it had to relinquish its inventory of p-ANI codes to Neustar as part of the Commission's move to a permanent p-ANI administrator.[271] TCS thus cannot obtain p-ANI codes in certain states, and TCS asserts that this may result in disruptions to E911 and homeland security. It notes in particular that its difficulty obtaining codes in South Carolina "is currently causing a 911 routing disruption" in that state.[272] TCS states that, "because it is not [a] CLEC certified in South Carolina and there is not 'central 911 authority' in South Carolina from which to secure a waiver, [TCS] has been denied access to p-ANI in this area.[273] This places TCS's customers, and their end users, in jeopardy."[274]

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[264] Reply Comments of Telecommunication Systems, Inc. WC Docket Nos. 07-243, 07-244, 04-36, CC Docket Nos. 95-116, 99-200 at 8 (filed Apr. 21, 2008).

[265] *Id*. at 13.

[266] *Id*. at 13–14.

[267] *Implementation of the NET 911 Improvement Act of 2008*, WC Docket No. 08-171, Report and Order, 23 FCC Rcd 15884, 15892–97, paras. 21–29 (2008) (*NET 911 Order*).

[268] *See* Neustar Memo, FCC Approved Neustar's Permanent Routing Number Administrator Change Order Proposal #19 (dated June 20, 2011) *available at* http://www.nationalpooling.com/tools/archives/change-orders/2011/index.htm (last visited Oct. 16, 2012). To ensure continued compliance with Part 52 of the Commission's rules and with the NET 911 Act for interconnected VoIP providers, the permanent RNA may accept from VoIP providers documentation other than that required for certified carriers, as long as the documentation demonstrates that the party requesting p-ANI resources provides VoIP service and identifies the jurisdiction(s) in which it provides service. *See generally id*.

[269] *See generally id*; *see also* Letter from Kim Robert Scovill, Senior Director of Legal and Government Affairs, Telecommunication Systems, Inc. to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200 at 1-2 (filed May 18, 2012).

[270] *See* TCS May 18, 2012 *Ex Parte* Letter at 2. TCS lacks certification in Idaho, Colorado, Wyoming, South Dakota, South Carolina, West Virginia, Alaska, and the District of Columbia, and has an open application in Maine. TCS encountered certification questions in Iowa, Illinois, Ohio, and Arizona that directly related to the inapplicability of CLEC certification to VoIP Positioning Services. *Id*.

[271] *Id*. at 1-2.

[272] TCS May 18, 2012 *Ex Parte* Letter at 1.

[273] *See* Letter from Kim Robert Scovill, Senior Director of Legal and Government Affairs, Telecommunication Systems, Inc. to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200 at 2 (filed Oct. 9, 2012) (TCS Oct. 9, 2012 *Ex Parte* Letter).

[274] *Id*.

TCS requests that the Commission grant a waiver so that TCS may obtain p-ANIs in states where TCS is not certified.

2. Discussion

112. We grant TCS a limited waiver of section 52.15(g)(2)(i) of the Commission's rules so that it may obtain p-ANI codes from the RNA in South Carolina and other states where it cannot obtain certification. TCS may show that it cannot obtain state certification by demonstrating that the state does not certify VPC providers (it has already done so in South Carolina). We grant this limited waiver while the Commission considers whether section 52.15(g)(2)(i) should be modified to allow all providers of VPC service to directly access p-ANI codes.

113. As described above, the Commission may waive its rules when good cause is demonstrated,[275] where the particular facts make strict compliance inconsistent with the public interest,[276] and if special circumstances warrant a deviation from the general rule that will serve the public interest.[277] In this instance, TCS has demonstrated good cause for a limited waiver of section 52.15(g)(2)(i). It has shown that strict compliance with the rule is inconsistent with the public interest because the inability to obtain p-ANI codes to provide VPC services may disrupt E911 service and threaten homeland security.[278] TCS has demonstrated that special circumstances warrant a deviation from the general rule.

114. This waiver is limited in duration and scope. It lasts only until the Commission addresses whether to modify section 52.15(g)(2)(i) of the rules to allow all VPC providers direct access to numbers, specifically p-ANI codes, for the purpose of providing 911 and E911 service. The waiver applies only with respect to states where TCS demonstrates that it cannot obtain p-ANI codes because it cannot obtain state certification. For example, TCS could provide the Commission with a denial from a state commission with the reason for denial being that the state does not certify VPC providers, or a statement from the state commission or its general counsel that it does not certify VPC providers. Upon such a showing, the Bureau will notify the RNA that TCS may directly access p-ANI codes in a particular state. We will consider broader relief, including options that TCS proposed, in the rulemaking. During the pendency of the rulemaking, we find good cause to grant TCS a limited waiver of section 52.15(g)(2)(i) of the Commission's rules so that it may obtain p-ANIs in those states where it cannot obtain certification.

V. NOTICE OF INQUIRY

A. Introduction

115. In the above Notice, we proposed a set of rules that would allow interconnected VoIP providers to obtain telephone numbers directly from number administrators rather than through intermediate carriers, subject to certain requirements.[279] In this Notice of Inquiry (NOI), we seek initial comment on a broader range of numbering issues that result from ongoing transitions from fixed telephony to increased use of mobile services, from TDM to IP technologies, and from geography-based intercarrier compensation to bill-and-keep, focusing particularly on whether telephone numbers should remain associated with particular geographies.

[275] 47 C.F.R. § 1.3; *see also WAIT* Radio, 418 F.2d at 1159.

[276] *Northeast Cellular Telephone Co.*, 897 F.2d at 1166.

[277] *WAIT Radio*, 418 F.2d at 1159.

[278] TCS May 18, 2012 *Ex Parte* Letter at 1.

[279] *See supra* Section III.

116. In the early 20th century, telephone numbers were administered by the telephone company as a way for people to call each other without having to go through an operator.[280] The number provided the carrier with billing information for the call, and also served as an address for the particular switch in the network that served a particular customer. However, with the advent of neutral numbering administration and number portability, the telephone number shed its addressing functionality.[281] Carriers must now query databases to determine how to route a call, but because numbers retain relevance for billing, numbers are still given out based on rate centers.[282]

117. With the development of mobile services and IP technology, the way that consumers use telephone numbers has evolved. Some services have already broken the historical tie between a number and a specific device. For example, Skype permits users to register a telephone number that routes to the Skype service,[283] and Google Voice permits users to register a telephone number that acts as an overlay on a user's existing telephony services, allowing selective routing of calls from certain numbers, and listening in on voicemails before picking up the phone.[284] Other services use a single number for multiple devices.[285]

118. In light of these changes, in this Notice we seek comment on some of the important recommendations made by the Technological Advisory Council (TAC) regarding the future of numbering.[286] In particular, the TAC recommended that the Commission consider "[f]ully decoupl[ing] geography from number."[287] We seek comment on the specifics of such a transition, including how it would affect public safety communications, access to communications networks by Americans with disabilities, and reliability in routing of communications and interconnection.

B. Discussion

1. Geographic Numbers

119. The increased use of mobile services, the evolution from TDM to IP technologies, and the transition to bill-and-keep compensation each raise questions regarding the ongoing association of numbers with geography. Decreasing need to associate numbers with geography could allow more efficient allocation of limited numbering resources and expansion of the consumer benefits associated

[280] Tom McGarry, *Two Generations of Telephone Numbers*, NEUSTAR INSIGHTS (Nov. 21, 2011), http:/blog.neustar.biz/neustar-insights/two-generations-of-telephone-numbers.

[281] *Id.*

[282] *Id.*

[283] Skype, What is a Skype Number?, https://support.skype.com/en/faq/FA331/what-is-a-skype-number (last visited Feb. 6, 2013).

[284] Google, About Google Voice, https://support.google.com/voice/bin/answer.py?hl=en&answer=115061 (last visited Feb. 6, 2013).

[285] Nathan Ingram, *iOS 6 unifies your Apple ID and phone number for improved iMessage and Facetime support*, THE VERGE (June 11, 2012, 2:32 PM), http://www.theverge.com/2012/6/11/3078598/ios-6-unified-apple-id-phone-number ("Now, if someone calls your phone number for Facetime, you'll be able to answer on your Mac or iPad. The same goes for Messages — if you get an iMessage on your phone, it'll be delivered to your Mac and other iOS devices, even if the sender sent the message to your cell phone number and not your Apple ID email.").

[286] Technological Advisory Council, Presentation to the Federal Communications Commission, at 60 (2012) (recommending that the Commission "[i]nitiate rulemaking on the full range and scope of issues with numbers/identifiers"), *available at* http://transition.fcc.gov/bureaus/oet/tac/tacdocs/meeting121012/TAC12-10-12FinalPresentation.pdf.

[287] *Id.* at 60.

with the ability to port wireline numbers.[288] At the same time, we recognize the long history of associating numbers and geography. In this section, we seek comment on the implications of separating telephone numbers from their addressing and billing functionality.

120. Telephone numbers have historically served as addresses used as part of a complex hierarchical routing method, involving trunk group or tandem lookups during the dialing process.[289] With the advent of number portability and other advances, the end-user telephone number has been decoupled from routing. And as the industry relies increasingly on SIP/RTP-based signaling and transport, and as customers keep their telephone numbers when they change locations, there appears to be a decreasing relationship between the network and the provision of service. What are the practical and policy implications if we were to transition telephone numbers to non-geographic distribution? What would be an appropriate timeframe and process for doing so?

121. We seek comment on the benefits and limitations associated with our current number assignment policy. Are there advantages to retaining geographic number assignment even as the industry moves increasingly to all-IP systems? For example, is it still valuable to associate a number with a geographic area for purposes of determining whether and what type of service is available in an area?[290] Is there a benefit to being able to associate a telephone number to a particular area? For example, how important is it for a business to be identified as a local business via its telephone number?

122. We seek comment on the costs and benefits of assigning numbers without regard to geography. Would decoupling numbers from specific geography slow, or accelerate, number exhaust in certain area codes, and should such exhaust matter in a world where numbers are no longer tied to a specific geography? What other considerations might weigh for or against moving to geographically assigned numbers? Would non-geographically assigned numbers increase the risk of fraud or spoofing, or make enforcement more difficult? What lessons can we derive from the distribution of toll-free numbers, which are not assigned on a geographic basis, to guide us in a possible transition for non-toll-free numbers?

123. If the Commission were to modify the number assignment rules, we seek comment on how a revised number assignment policy might be administered. For example, should the Commission create a unified or national numbering regime that would apply equally to all service providers, regardless of location? How should this regime incorporate the current authority of the various state commissions? For the purpose of number administration, what if any relevant distinctions between service providers would warrant different treatment? We also seek comment on whether certain numbers, such as those traditionally associated with major cities, are likely to remain more desirable even if we transitioned from geographic number assignment. We also seek comment on the best way would be to implement any changes, to avoid abrupt transitions and ensure seamless provision of service to consumers.

124. We seek comment on the impact on other regulatory entities if we modified our current regime for assignment of telephone numbers. How would a move away from geographic number

[288] *See* California PUC Comments at 3 (indicating that a numbering system that recognizes and accommodates new technologies not constrained by geographic network deployment would eliminate elements of the current system that make number utilization inefficient). Such inefficiencies include stranded resources in areas with lower demand and scarcity in areas with higher demand.

[289] DEEPANKAR MEDHI & KARTHIKEYAN RAMASAMY, NETWORK ROUTING: ALGORITHMS, PROTOCOLS, AND ARCHITECTURES 415–16 (2010).

[290] For example, NRUF data is often used in assessing competitive effects of transactions. *See, e.g., Applications of Cellco Partnership d/b/a Verizon Wireless, E.N.M.R. Telephone Cooperative, and its Wholly-Owned Subsidiary Plateau Telecommunications, Incorporated for Consent to Assign Licenses, Numbering Resource Utilization and Forecast Reports and Local Number Portability Reports to be Placed into the Record, Subject to Protective Order*, Public Notice, 27 FCC Rcd 11098 (Wireless Telecommunications Bureau 2012).

assignment impact states' role in numbering administration, which currently includes important functions such as consumer protection and area code relief planning? How would it impact numbering administration worldwide? Would adjustments that the Commission makes to geographic numbers adversely affect international services that utilize telephone numbers?

2. Public Safety

125. Consumers today rely on the ubiquity and efficacy of 911 service to get help in an emergency, and 911 services continue to evolve to meet the needs of a 21st Century communications network. A traditional 911 call is routed by a local exchange carrier to a public safety answering point (PSAP) staffed by professionals trained to assist callers in need of emergency services.[291] Most PSAPs have upgraded to E911, which allows a carrier to route a call to the most appropriate PSAP and provides the PSAP with the caller's call-back number and location information.[292] Responding to the rise of wireless communications, the Commission adopted E911 rules requiring wireless carriers to provide PSAPs with accurate location information based on the caller's real-time coordinates.[293] In 2005, the Commission also required interconnected VoIP services to support E911, but the VoIP E911 rules rely on the VoIP customer to register his or her location manually, which is then passed to the PSAP during a 911 call.[294] The Commission has also taken steps to facilitate the transition from legacy 911 and E911 to Next Generation 911 (NG911), which will use IP-based technology to deliver and process 911 traffic, and will support not only traditional voice 911 calls but also the transmission of text, photos, videos, and data.[295] In 2012, Congress passed the Next Generation 9–1–1 Advancement Act to further improve 911 functionality across legacy wireline, wireless, and VoIP services.[296]

126. We seek comment on whether removing geographic boundaries from number administration could raise new public safety concerns associated with 911 call routing and provision of

[291] *Revision to the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, RM-8143, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 18676, 18678, para. 2 (1996); 47 C.F.R. § 9.3. For a technical overview of 911, E911, and NG911 service, *see also* Legal and Regulatory Framework for Next Generation 911 Services: Report to Congress and Recommendations, DOC 319165 (Feb. 22, 2013) (NG911 Framework Report), Section 3.1.

[292] *See* NG911 Framework Report, Section 3.1.1. These E911 capabilities are known as Automatic Numbering Information (ANI) and Automatic Location Identification (ALI), respectively.

[293] *See id.*, Section 3.1.1.2; *see also Wireless E911 Location Accuracy Requirements*, PS Docket No. 07-114, Second Report and Order, 25 FCC Rcd 18909 (2010); 47 C.F.R. § 20.18. Subject to certain caveats, commercial mobile radio service providers must provide PSAPs with latitude and longitude coordinates for wireless 911 calls that are accurate to between 50 and 300 meters, depending on the location technology used and other factors. *See* 47 C.F.R. § 20.18(h)(1).

[294] *See* NG911 Framework Report, Section 3.1.1.3; *see also IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers*, WC Docket Nos. 04-36, 05-196, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 10245 (2005); 47 C.F.R. § 9.5. The Commission has also sought comment on how to provide automatic location information in conjunction with VoIP 911 calls. *Amending the Definition of Interconnected VoIP Service; Wireless E911 Location Accuracy Requirements; E11 Requirements for IP-Enabled Service*, GN Docket No. 11-117, PS Docket No. 07-114, WC Docket No. 05-196, Third Report and Order, Second Further Notice of Proposed Rulemaking, and Notice of Proposed Rulemaking, 26 FCC Rcd 10074, 10098-10101, paras. 69-77 (2011).

[295] *See* NG911 Framework Report, Section 3.1.1.4; *see also Framework for Next Generation 911 Deployment*, Notice of Inquiry, 25 FCC Rcd 17869 (2010); *Facilitating the Deployment of Text-to-9–1–1 and Other Next Generation 9-1-1 Applications*, Notice of Proposed Rulemaking, 26 FCC Rcd 13615 (2011); Further Notice of Proposed Rulemaking, 27 FCC Rcd 15659 (2012).

[296] *See* Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96 (2012), Title VI, Subtitle E (Next Generation 9–1–1 Advancement Act).

location information. If geographically-based number administration were to be eliminated, we seek comment on what if any mechanisms would be needed in order to ensure that emergency service is timely and accurately provided. How would a shift away from rate-center bounded numbering impact E911 and NG911 efforts, and how could the Commission administer its numbering policy in a manner that enhances these important efforts?

3. Disability Access

127. We also seek comment on how severing the connection between geography and number assignment might affect access to communications services by people with disabilities. The Commission has permitted video relay service (VRS) and Internet Protocol (IP) Relay users to register and obtain 10-digit geographic numbers, allowing users to be reached through a single number that will automatically connect to the registered user's primary VRS or IP Relay provider and allow the provider to determine the user's IP address for the purpose of delivering incoming calls made to that number.[297] The Commission also adopted requirements allowing VRS and IP Relay users to have both their 10-digit number and registered location information forwarded to the appropriate PSAP.[298] We seek comment on whether modifying number assignments would unduly affect VRS or IP Relay services, or undermine the functional equivalence of such services to individuals with hearing and speech disabilities. We also seek comment on the relationship between 911 service provisioning and VRS/IP Relay as it relates to the 10-digit VRS/IP Relay numbering. What other services could be affected? What steps would need to be taken to ensure that access to communications services for Americans with disabilities continues to be robust and secure if numbers are assigned without regard to geography?

4. Routing and Interconnection

128. We seek comment on the database and routing issues that would be raised if the Commission were to modify its geographic numbering policy. As more voice endpoints transition to VoIP, how could the Commission's numbering policies change to increase efficiencies in VoIP traffic routing? We seek comment generally on whether altering geographic numbering limitations would affect call routing or tracking, and how we would prevent or minimize complications. We also seek comment on whether the marketplace solutions are developing to address these issues. How should the Commission approach the database and routing issues generally, in a world where telephone numbers are identifiers?

129. We seek comment on the routing limitations that geographic numbering imposes on various industry databases. What are the restrictions imposed by providers of the various database services (*e.g.*, BIRRDS/LERG, NPAC, and LIDB/CNAM) on access to the databases? Should these databases be modified or eliminated in a world without geographic numbers? What restrictions would need to be eliminated or modified? What restrictions and signaling requirements would need to be maintained in order to provide security across interconnection points? We also seek comment on the practices that service providers might need to alter to increase interconnection and routing efficiency if we modified our geographic numbering policy.

130. We also seek comment on how numbering schemes and databases integral to the operations of PSTN call routing will need to evolve to operate well in IP-based networks. We seek comment generally on what databases need to be modified, how they should be modified, and what the

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[297] *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; E911 Requirements for IP-Enabled Service Providers*, CG Docket No. 03-123, WC Docket No. 05-196, Report and Order and Further Notice of Proposed Rulemaking, 23 FCC Rcd 11591, 11592, para. 1 (2008); 47 C.F.R. § 64.605.

[298] *See Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; E911 Requirements for IP-Enabled Service Providers*, 23 FCC Rcd at 11621-22, paras. 79-84.

role of Commission and industry should be in ensuring a proper transition to VoIP call routing.[299] Should the Commission encourage development of a new set of databases, or should existing databases be modified to account for new technological developments?[300]

131. We seek comment on the effect that direct access to numbers, if numbers are no longer tied to a particular geographic region, would have on the industry's transition to direct VoIP interconnection. VoIP telephony has existed for some time, and adoption by businesses and service providers is increasing.[301] Some parties note that carriers have historically relied primarily on the LERG and LNP databases to route calls, but these databases cannot identify SIP endpoints.[302] Some parties additionally note that the preference to route calls to the VoIP provider's CLEC partner via PSTN trunks, rather than to the VoIP provider directly, has hampered the implementation of next generation interconnection.[303] We seek comment on how call routing efficiency would be impacted by a modified numbering policy, and whether such changes would affect the likelihood of parties entering into agreements for next generation interconnection. How would a modified numbering policy impact interconnection arrangements?

5. Other Issues

132. Aside from the geography-related issues addressed in the foregoing sections, the TAC and others have raised issues concerning number administration more generally. The memorability, ubiquity, convenience, and universality of telephone numbers as identifiers suggest that they will remain relevant for quite a while.[304] Other than shifting away from geographic assignment, should the Commission be considering long-term changes to the basic telephone numbering system?

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[299] Technological Advisory Council, Presentation to the Federal Communications Commission, at 55, 60 (2012), *available at* http://transition.fcc.gov/bureaus/oet/tac/tacdocs/meeting121012/TAC12-10-12FinalPresentation.pdf.

[300] *See id.* at 60.

[301] *See* CISCO SYSTEMS, THE TRANSITION TO IP TELEPHONY AT CISCO SYSTEMS 1 (2001) (noting that Cisco began transitioning to IP telephony in 1998); *Local Competition and Broadband Reporting*, CC Docket No. 99-301, Notice of Proposed Rulemaking, 14 FCC Rcd 18100, paras. 62–63 & n.99 (1999) (noting that the "public switched telephone network" includes the traditional circuit-switched telephone network as well as all alternatives to the wireline infrastructure, regardless of switching technology" and that "interconnection of IP-based and circuit-switched networks presumably would allow an IP-telephony message to be delivered to any telephone service subscriber"); 3rd Generation Partnership Project, *Technical Specification Group Services and Systems Aspects, IP Multimedia Subsystem (IMS), Stage 2 (Release 11)*, 5.4.2 to 5.4.3 (2012) (establishing transport and application level interworking for SIP, and procedures for forwarding a call session to the PSTN).

[302] Richard Shockey, *Technical Challenges in the PSTN Transition from Plain Old Telephone Service*, 7–9 *attached to* Letter from Richard Shockey, Shockey Consulting, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200 *et al.* (filed Sept. 4, 2012) ("*Technical Challenges*"). Some carriers who interconnect in IP bilaterally have apparently identified a modified method of routing using carrier ENUM or SIP Redirect queries after locating the Service Provider Identification Number in a locally cached LERG database.

[303] Letter from Robert W. Quinn, Jr., Senior Vice President, Federal Regulatory, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 99-200, at 2-3 (filed May 29, 2012); Comments of Vonage Holdings Corp., CC Docket No. 99-200 at 6–8 (Jan. 25, 2012).

[304] *See* Tom McGarry, *The Future of Telephone Numbers: Numbers 3.0*, NEUSTAR INSIGHTS (Nov. 15, 2011), http://blog.neustar.biz/neustar-insights/the-future-of-telephone-numbers-numbers-3-0/ (arguing for the continued relevance of phone numbers); *but see* Nikhyl Singhal, *Phone Numbers Are Dead, They Just Don't Know It Yet*, TECHCRUNCH (Aug. 28, 2010), http://techcrunch.com/2010/08/28/phone-numbers-dead/ (arguing that phone numbers are becoming increasingly irrelevant to modern communications).

VI. PROCEDURAL MATTERS

A. *Ex Parte* Rules – Permit-But-Disclose

133. The proceeding this Notice initiates shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[305] Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (*e.g.*, .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

B. Comment Filing Procedures

134. Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: http://fjallfoss.fcc.gov/ecfs2/.

- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

- Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

[305] 47 C.F.R. §§ 1.1200 *et seq.*

- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

- People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

C. Initial Regulatory Flexibility Analysis

135. As required by the Regulatory Flexibility Act of 1980 (RFA),[306] the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in this document. The analysis is found in Appendix B. We request written public comment on the analysis. Comments must be filed by the same dates as listed in the first page of this document, and must have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of this Notice, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

D. Paperwork Reduction Analysis

136. This document contains proposed new information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget ("OMB") to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Pub. L. No. 104-13. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Pub. L. No. 107-198, *see* 44 U.S.C. § 3506(c)(4), we seek specific comment on how we might "further reduce the information collection burden for small business concerns with fewer than 25 employees."

VII. ORDERING CLAUSES

137. Accordingly, IT IS ORDERED that pursuant to Sections 1, 3, 4, 201-205, 251, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, 303(r), the NOTICE OF PROPOSED RULEMAKING is hereby ADOPTED.

138. IT IS FURTHER ORDERED that, pursuant to the authority contained in sections 1, 3, 4, 201-205, 251, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, 303(r), the 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 the Petition of TeleCommunication Systems, Inc. and HBF Group, Inc. for Waiver of Part 52 of the Commission's Rules ARE GRANTED to the extent set forth herein, and this Order SHALL BE EFFECTIVE upon release.

139. IT IS FURTHER ORDERED that pursuant to Sections 1, 3, 4, 201-205, 251, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, 303(r), the NOTICE OF INQUIRY is hereby ADOPTED.

[306] 5 U.S.C. § 603.

140. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this NOTICE OF PROPOSED RULEMAKING, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

Proposed Rules

PART 52 – NUMBERING

The authority citation for Part 52 continues to read as follows:

AUTHORITY: Sections 1, 2, 4, 5, 48 Stat. 1066, as amended; 47 U.S.C. § 151, 152, 154, 155 unless otherwise noted. Interpret or apply secs. 3, 4, 201-05, 207-09, 218, 225-27, 251-52, 271 and 332, 48 Stat. 1070, as amended, 1077; 47 U.S.C. 153, 154, 201-05, 207-09, 218, 225-27, 251-52, 271 and 332 unless otherwise noted.

Subpart A – Scope and Authority

1. Amend Section 52.5 to read as follows:

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(b) *Interconnected voice over Internet Protocol (VoIP) service provider.* The term "interconnected VoIP service provider" is an entity that provides interconnected VoIP service, as that term is defined in 47 U.S.C. § 153(25).

(c) *North American Numbering Council* (NANC). ***

(d) *North American Numbering Plan* (NANP). ***

(e) *Service provider.* The term "service provider" refers to a telecommunications carrier or other entity that receives numbering resources from the NANPA, a Pooling Administrator or a telecommunications carrier for the purpose of providing or establishing telecommunications service. For the purposes of this part, the term "service provider" shall include an interconnected VoIP service provider.

(f) *State.* ***

(g) *State Commission*. ****

(h) *Telecommunications*. ***

(i) *Telecommunications carrier or carrier.* A "telecommunications carrier" or "carrier" is any provider of telecommunications services, except that such term does not include aggregators of telecommunications services (as defined in 47 U.S.C. 226(a)(2)). For the purposes of this part, the term "telecommunications carrier" or "carrier" shall include an interconnected VoIP service provider.

(j) *Telecommunications service.* The term "telecommunications service" refers to the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used. For purposes of this part, the term "telecommunications service" shall include interconnected VoIP service as that term is defined in 47 U.S.C. § 153(25).

Subpart B – Administration

2. Revise Section 52.15(g)(2) to read as follows:

(g) Applications for Numbering Resources.

(1) *General Requirements*. All applications for numbering resources must include the company name, company headquarters address, OCN, parent company's OCN(s), and the primary type of business in which the numbering resources will be used.

(2) *Initial numbering resources*. Applications for initial numbering resources shall include evidence that:

(i) The applicant is authorized to provide service in the area for which the numbering resources are being requested; and the applicant is or will be capable of providing service within sixty (60) days of the numbering resources activation date.

(ii) Interconnected VoIP service providers may use the appropriate pages of their most recent FCC Form 477 submission as evidence of authorization to provide service in the area for which resources are being requested. Interconnected VoIP service providers must also provide the relevant state commission with regulatory and numbering contacts upon first requesting numbers in that state.

3. Amend Section 52.16 by deleting paragraph (g).

4. Amend Section 52.17 by deleting paragraph (c).

Subpart C – Number Portability

5. Amend Section 52.21 by deleting paragraph (h) and redesignating paragraphs (i)–(w).

6. Amend Section 52.32 by deleting paragraph (e).

7. Revise Section 52.33(b) to read as follows:

(b) All telecommunications carriers other than incumbent local exchange carriers may recover their number portability costs in any manner consistent with applicable state and federal laws and regulations.

8. Revise Section 52.34 by adding new subsection (c) as follows:

(c) Telecommunications carriers must facilitate an end-user customer's valid number portability request either to or from an interconnected VoIP or VRS or IP Relay provider. "Facilitate" is defined as the telecommunication carrier's affirmative legal obligation to take all steps necessary to initiate or allow a port-in or port-out itself, subject to a valid port request, without unreasonable delay or unreasonable procedures that have the effect of delaying or denying porting of the NANP-based telephone number.

9. Amend Section 52.35 be deleting paragraph (e)(1) and redesignating paragraphs (e)(2) and (e)(3) as (e)(1) and (e)(2), respectively.

10. Amend Section 52.36 by deleting paragraph (d).

APPENDIX B

Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in this Notice of Proposed Rulemaking (NPRM). Written comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the NPRM. The Commission will send a copy of the NPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).[2] In addition, the NPRM and IRFA (or summaries thereof) will be published in the Federal Register.[3]

A. Need for, and Objectives of, the Proposed Rules

2. The NPRM proposes to remove unnecessary regulatory barriers to innovation and efficiency by allowing interconnected VoIP providers to obtain telephone numbers directly from the NANPA and the PA, subject to certain requirements. Telephone numbers are a valuable and limited resource, and access to and use of such numbers must be managed judiciously in order to ensure that they remain available and to protect the efficient and reliable operation of the telephone network. At the same time, the Commission is attempting to modernize its rules in light of significant and ongoing technology transitions in the delivery of voice services, with the goal of promoting innovation, investment, and competition for the ultimate benefit of consumers and businesses.[4] In light of these twin concerns, the proposed rules allowing interconnected VoIP providers to have direct access to numbers will help modernize the Commission's policies of fostering innovation and competition and speeding the delivery of innovative services to consumers and businesses, while also preserving the integrity of the telephone network and ensuring appropriate oversight of telephone number assignments. To ensure the efficient and judicious management of telephone numbers and promote further innovation and competition, the NPRM seeks comment on these proposed rules, including the requirements that must be met in order to obtain direct access the numbers, and potential issues involving intercarrier compensation, VoIP interconnection, and LNP obligations under the proposed rules.

1. Direct Access to Numbers by Interconnected VoIP Providers

3. The NPRM first proposes to modify the Commission's rules to allow interconnected VoIP providers to obtain numbers directly from the NANPA and the PA, subject to a variety of requirements to ensure continued network integrity, allow oversight and enforcement of our numbering regulations, and protect the public interest. The NPRM seeks comment generally on permitting interconnected VoIP providers to obtain phone numbers directly from the number administrators and on whether allowing these parties direct access to numbers will spur the introduction of innovative new

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[1] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601–612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *See* 5 U.S.C. § 603(a).

[3] *Id*.

[4] *See FCC Chairman Julius Genachowski Announces Formation of "Technology Transitions Policy Task Force"* (Dec. 10, 2012) (forming an agency-wide Technology Transitions Policy Task Force to "provide recommendations to modernize the Commission's policies"); *FCC Announces First Technology Transitions Policy Task Force Workshop*, GN Docket No. 13-5, Public Notice (rel. Feb. 12, 2013); *see also FCC Announces Formation of the Technological Advisory Council*, Public Notice (rel. Oct. 25, 2010).

technologies and services, increase efficiency, and facilitate increased choices for American consumers.[5] The NPRM also seeks comment on whether there are alternate ways to accomplish these goals and whether there are benefits to requiring carrier-partners.

4. In October 2010, the CVAA codified the Commission's definition of "interconnected VoIP service" in Section 9.3 of the Commission's rules, "as such section may be amended from time to time." [6] The NPRM therefore seeks comment on whether any amendments to the Commission's definition of interconnected VoIP service are needed to allow direct access to numbers by interconnected VoIP providers.[7]

2. Documentation Required to Obtain Numbers

5. The NPRM notes that under section 52.15(g)(2)(i) of the rules, an applicant for telephone numbers must provide the number administrator with evidence of the applicant's authority to provide service, such as a license issued by the Commission or a CPCN issued by a state regulatory commission. Interconnected VoIP providers may be unable to provide the evidence required by this rule because states often refuse to certify VoIP providers.[8] After the Commission required interconnected VoIP providers to comply with the same E911 requirements as carriers, the Bureau recognized that VoIP providers would not be able to provide the same documentation as certificated carriers to obtain the non-dialable numbers necessary to provide E911 service.[9] In that case, the Bureau permitted the administrator that disseminates p-ANI codes to accept documentation different than that required by certificated carriers.[10] The Bureau allowed this documentation to be in the form of pages 2 and 36 of the FCC Form 477.

6. Given these issues, the NPRM seeks comment on what, if any, documentation interconnected VoIP providers should be required to provide to the number administrator to receive numbers. Specifically, comment is sought on whether interconnected VoIP providers should be required to demonstrate that they do or plan to offer service in a particular geographic area in order to receive numbers associated with that area.[11] Comment is sought on whether data regarding the provision of interconnected VoIP services from FCC Form 477 would service this role, or whether there are alternative

[5] *See supra* Section III.A.

[6] Pub. L. 111-260, § 101, adding definition of "interconnected VoIP service" to Section 3 of the Act, codified at 47 U.S.C. § 153(25). The Senate Report reiterates that this term "means the same as it does in title 47 of the Code of Federal Regulations, as such title may be amended from time to time." S. Rep. No. 111–386, at 6 (2010) ("Senate Report"). The House Report is silent on this issue. H.R. Rep. No. 111-563 (2010) ("House Report").

[7] *See supra* Section III.A.

[8] *See* Letter from Randall B. Lowe, Counsel to SmartEdgeNet, to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 99-200 (filed Jun. 26, 2012) (stating that at least 24 jurisdictions have precluded their utility commissions from regulating VoIP service, including issuing CPCNs).

[9] The Bureau's action fulfilled obligations stemming from the New and Emerging Technologies 911 Improvement Act of 2008, Pub. L. No. 110-283, 122 Stat. 2620 (2008) (NET 911 Act) (amending Wireless Communications and Public Safety Act of 1999, Pub. L. No. 106-81, 113 Stat. 1286 (1999) (Wireless 911 Act)). In implementing the Net 911 Act, the Commission determined that p-ANIs are "capabilities" under that Act, and that interconnected VoIP providers are entitled to access to these capabilities from any entity that owns or controls such capabilities. *See Implementation of the NET 911 Improvement Act of 2008*, WC Docket No. 08-171, Report and Order, 23 FCC Rcd 15884 (2008) (*NET 911 Order*).; *see also* 47 C.F.R. § 9.7.

[10] To ensure continued compliance with Part 52 of the Commission's rules and with the NET 911 Act, an interconnected VoIP provider must demonstrate that it provides VoIP service and must identify the jurisdiction(s) in which it provides service. Letter from Sharon E. Gillett, Chief, Wireline Competition Bureau, Federal Communications Commission, to Betty Ann Kane, Chair, North American Numbering Council and Ms. Amy L. Putnam, Director, Number Pooling Services, Neustar, Inc. (Dec. 14, 2010) (*Permanent RNA Letter*).

[11] *See supra* Section III.A.1.

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. Comment is further sought on whether the Commission should adopt a process whereby it will provide the certification required by section 52.15(g)(2)(i), but only to the extent a state commission lacks authority to do so or represents that it has a policy of not doing so.[12] The NPRM asks whether certification requirements should be different for providers of facilities-based interconnected VoIP, which is typically offered in a clearly defined geographic area, and over-the-top interconnected VoIP, which can be used anywhere that has a broadband connection. Comment is also sought on whether certification would permit the Commission to exercise forfeiture authority without first issuing a citation. The NPRM further seeks comment on the costs and burdens imposed on small entities from the rules resulting from this requirement, and how those onuses might be ameliorated. Lastly, the NPRM asks whether there are other issues or significant alternatives that the Commission should consider to ease the burden of these proposed measures on small entities.[13]

3. Numbering Administration Requirements for Interconnected VoIP Providers

7. Telecommunications carriers are required to comply with a variety of Commission and state number optimization requirements and are expected to follow industry guidelines. In the *SBCIS Waiver Order*, the Commission imposed these requirements on SBCIS as a condition of its authorization to obtain telephone numbers directly from the number administrators.[14] The NPRM proposes to impose these same number utilization and optimization requirements and industry guidelines and practices that apply to carriers, on interconnected VoIP providers that obtain direct access to numbers.[15] These requirements include, *inter alia*, adhering to the numbering authority delegated to state commissions for access to data and reclamation activities, and filing NRUF Reports.[16] Requiring interconnected VoIP providers that obtain numbers directly from the numbering administrators to comply with the same numbering requirements and industry guidelines as carriers will help alleviate many concerns about numbering exhaust and will enable the Commission to more effectively monitor the VoIP providers' number utilization. The NPRM seeks comment on these requirements and on their efficacy in conserving numbers and protecting consumers.[17] One reason numbers that interconnected VoIP providers obtain from CLECs are not reported as "intermediate numbers" is that some reporting carriers classify interconnected VoIP providers as the "end user," because the interconnected VoIP provider is the customer of the wholesale carrier. The NPRM therefore seeks comment on how to revise the Commission's definition of "intermediate numbers" or "assigned numbers" to ensure consistency among all reporting providers.

8. The NPRM proposes to allow interconnected VoIP providers to obtain telephone numbers only from rate centers subject to pooling, in order to reduce waste. The NPRM seeks comment

[12] *See id*.

[13] *See id*.

[14] *SBCIS Waiver Order*, 20 FCC Rcd at 2959, para. 4.

[15] *See* 47 C.F.R. Part 52. Specifically, section 52.15(f)(7) provides state commissions access to data reported to the NANPA provided they have appropriate protections in place to prevent public disclosure of disaggregated, carrier-specific data. 47 C.F.R. § 52.15(f)(7). Section 52.15(i) details the role of the state commissions in the reclamation of numbering resources. 47 C.F.R. § 52.15(i). Section 52.15(f)(6) requires reporting carriers to file usage forecast and utilization reports on a semi-annual basis. 47 C.F.R. § 52.15(f)(6).

[16] *See* 47 C.F.R. § 52.15(f)(3) (requiring carriers to file NRUF Reports). The NRUF Report is used by the Commission, state regulatory commissions, and the NANPA to monitor numbering utilization by carriers and to project the dates of area code and NANP exhaust. Carriers are required to file their reports with the NANPA by February 1 and August 1 of each year. *See* 47 C.F.R. § 52.15(f)(6).

[17] *See supra* Section III.A.2.

on this proposal and any concerns it may raise. Comment is also sought on whether it makes sense to differentiate between traditional carriers and interconnected VoIP providers in terms of the rate centers from which they can request numbers, and whether this approach raises anti-competitive or public policy concerns. The NPRM seeks further comment on how this approach will affect existing VoIP customers with numbers not in these rate centers, if at all.[18] Comment is sought on whether this approach is appropriately tailored to address the problems of waste and number exhaust, and whether there are any alternative measures that would be more effective in dealing with these issues. The NPRM also details an alternative proposal by the California PUC in which the Commission would grant states the right to specify which rate centers are available for VoIP number assignment. The NPRM seeks comment, in particular, on this alternative proposal.[19]

9. In conjunction with these recommendations, the California PUC proposes a system in which all calls to VoIP providers are deemed to be local calls for numbering administration purposes. Comment is sought on the feasibility of this plan and the method by which the Commission might implement it. The NPRM also seeks comment on any drawbacks posed by this system to VoIP providers and their customers.[20]

10. Under the Commission's rules, carriers must demonstrate "facilities readiness"[21] before they can obtain initial numbering resources, which helps to ensure that carriers are not building inventories before they are prepared to offer service. The NPRM proposes to extend these "facilities readiness" requirements to interconnected VoIP providers who obtain direct access to numbers. Comment is sought on whether requiring interconnected VoIP providers to submit evidence that they have ordered an interconnection service pursuant to a tariff is appropriate evidence of "facilities readiness" or whether there are better ways to demonstrate compliance with this requirement. Comment is sought further on whether the Commission should modify this requirement to allow more flexibility, and if so, how.[22]

11. In the *SBCIS Waiver Order*, the Commission required SBCIS to file any requests for numbers with the Commission and the relevant state commission at least 30 days prior to requesting numbers from the number administrators.[23] The 30-day notice period allows the Commission and relevant state commission to monitor the VoIP providers' numbers and to take measures to conserve resources, if necessary, such as determining which rate centers are available for number assignments. The NPRM seeks comment on whether to impose this requirement on all interconnected VoIP providers that obtain direct access to numbers.[24]

12. In addition to complying with the Commission's existing numbering requirements and the obligations set forth in the *SBCIS Waiver Order*, Vonage offered several commitments as a condition of obtaining direct access to numbers. Specifically, Vonage offered to: (1) maintain at least 65 percent number utilization across its telephone number inventory; (2) offer IP interconnection to other carriers and providers; and (3) provide the Commission with a transition plan for migrating customers to its own

[18] *See id*.

[19] *See id*.

[20] *See id*.

[21] Section 52.15(g)(2)(ii) of the Commission's rules requires that an applicant for initial numbering resources is or will be capable of providing service within sixty (60) days of the activation date of the numbering resources. 47 C.F.R. § 52.15(g)(2)(ii).

[22] *See supra* Section III.A.2.

[23] Commenters agree that the waivers should be subject to the conditions set forth in the *SBCIS Waiver Order*. *See, e.g*., AT&T Comments at 2; Wisconsin PSC Comments at 4; Vonage Renewal at 1.

[24] *See supra* Section III.A.2.

numbers within 90 days of commencing that migration and every 90 days thereafter for 18 months.[25] Vonage indicates that these commitments will ensure efficient number utilization and facilitate Commission oversight.[26] The NPRM seeks comment on whether to impose some or all of these requirements on interconnected VoIP providers.[27]

13. To enhance the ability of state commissions to effectively oversee numbers, which will in turn promote better number utilization, the Wisconsin PSC suggests that the Commission require 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);[28] (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.[29] The NPRM seeks comment on this proposal and whether additional oversight of the financial and managerial aspects of interconnected VoIP providers is needed. In particular, comment is sought on how providers of nomadic VoIP service could comply with a requirement to provide access to the locally-appropriate N11 numbers.[30]

14. The NPRM further seeks comment on whether the proposal to allow direct access to numbers for interconnected VoIP providers might affect competition, and if so, how.[31]

4. Enforcement of Interconnected VoIP Providers' Compliance with Numbering Rules

15. The NPRM notes that in order for the Commission to exercise its forfeiture authority for violations of the Act and its rules without first issuing a warning, the wrongdoer must hold (or be an applicant for) some form of authorization from the Commission, or be engaged in activity for which such an authorization is required.[32] A Commission authorization is not currently required to provide interconnected VoIP service. The NPRM therefore seeks comment on whether the Commission should implement a certification or blanket authorization process applicable to interconnected VoIP providers that elect to obtain direct access to numbers. Comment is also sought on whether Commission certification would be necessary and appropriate for all providers, not just those that cannot obtain certifications from state commissions. Alternatively, comment is sought on whether it would be less administratively burdensome if the Commission amended its rules to establish "blanket" authorization for interconnected VoIP providers for access to numbering resources.[33]

16. In addition, the NPRM seeks comment on whether there are ways to ensure that VoIP providers are subject to the same penalties and enforcement processes as traditional common carriers. More specifically, comment is sought on whether VoIP providers must consent to be subject to the same monetary penalties as common carriers as a condition of obtaining direct access to numbers.[34] Comment

[25] Vonage Supplement at 5–6.

[26] *Id*. at 5.

[27] *See supra* Section III.A.2.

[28] An "Operating Company Number" is a four-digit numerical code used to identify telecommunications service providers. *See* ATIS-0300251, *Codes for Identification of Service Providers for Information Exchange*. The National Exchange Carrier Association assigns all OCNs.

[29] Wisconsin PSC Comments at 4–7.

[30] *See supra* Section III.A.2.

[31] *See id*.

[32] *See* 47 U.S.C. § 503(b).

[33] *See supra* Section III.A.3.

[34] *See id*.

is also sought on whether the Commission can and should require VoIP providers to waive any additional process protections that traditional common carriers would not receive. Lastly, the NPRM seeks comments on whether VoIP providers should be prohibited from obtaining direct access to numbers if they are "red-lighted" by the Commission for unpaid debts or other reasons. The NPRM asks if there are any other reasons for which VoIP providers should be deemed ineligible to obtain numbers.[35]

5. Databases, Call Routing and Termination

17. The NPRM also seeks comment on the routing of calls by interconnected VoIP providers that use their own telephone numbers. Specifically, the NPRM explains that interconnected VoIP provider switches do not appear in the LERG, the database which enables carriers to send traffic to, and receive traffic from, a given telephone number.[36] The NPRM notes that some commenters claim that, without association to a switch, carriers will not know where to route calls, likely resulting in end user confusion and interference with emergency services and response. [37] Other commenters have responded that marketplace solutions from companies such as Level 3 or Neutral Tandem can be employed to solve these problems by, for instance, designating the switch of a carrier partner in the LERG and in the NPAC database as the default routing locations for traffic bound for numbers assigned to interconnected VoIP providers in order to route calls originated in the PSTN.[38] The NPRM seeks comment generally on whether providing interconnected VoIP providers direct access to numbers will hinder or prevent call routing or tracking, and how such complications can be prevented or minimized. The NPRM also seeks comment on whether the marketplace solutions described by the commenters will be adequate to properly route calls by interconnected VoIP providers, absent a VoIP interconnection agreement. The NPRM further asks whether the Commission should require interconnected VoIP providers to maintain carrier partners to ensure that calls are routed properly.[39]

18. The NPRM seeks comment on the routing limitations that interconnected VoIP providers currently experience as a result of having to partner with a carrier in order to get numbers, and on the role and scalability of various industry databases in routing VoIP traffic directly to the VoIP provider over IP links. Specifically, the NPRM asks what restrictions are imposed by the administrators of the various database services on access to the databases, and on the practices that service providers may need to alter to increase interconnection and routing efficiency. Specifically, the NPRM asks whether listing a non-facilities-based interconnected VoIP provider in the Alternate Service Provider Identification (ALT SPID) field in the NPAC database is sufficient to allow a provider to route calls directly to a VoIP provider if the VoIP provider has a VoIP interconnection agreement.[40] Lastly, the NPRM seeks comment on how numbering schemes and databases integral to the operation of PSTN call routing will need to evolve to operate well in IP-based networks.[41]

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[35] *See id*.

[36] CLEC Participants Comments at 8. The LERG is an industry guide generally used by carriers in their network planning and engineering and numbering administration. It contains information regarding all North American central offices and end offices. *AT&T Corp. v. Alpine Communications, LLC, Clear Lake Independent Telephone Co., Mutual Telephone Co. of Sioux Center, Iowa, Preston Telephone Co., and Winnebago Cooperative Telephone Association*, EB-12-MD-003, Memorandum Opinion and Order, FCC 12-110 (rel. Sept. 11, 2012).

[37] *Id.* at 8–9

[38] *Id*. at 1.

[39] *See supra* Section III.B.1.

[40] *See id*.

[41] *See id*.

6. Intercarrier Compensation

19. In the *USF/ICC Transformation Order*, the Commission adopted a default uniform national bill-and-keep framework as the ultimate intercarrier compensation end state for all telecommunications traffic exchanged with a LEC, and established a measured transition that focused initially on reducing certain terminating switched access rates.[42] As the NPRM notes, interconnected VoIP providers with direct access to numbers could enter into agreements to interconnect with other providers. The NPRM seeks comment on how to address any ambiguities in intercarrier compensation payment obligations that may be introduced by granting interconnected VoIP providers direct access to numbers.[43] The NPRM also seeks comment on whether granting interconnected VoIP providers direct access to numbers would improve the accuracy and utility of call signaling information for traffic originated by customers of interconnected VoIP providers. The NPRM asks further whether any intercarrier compensation impacts would be temporary, given the ongoing transition toward a bill-and-keep intercarrier compensation framework.[44]

20. The NPRM also seeks comment on the regulatory status of competitive tandem providers, and in particular, whether any portions of competitive operations are regulated by the states or Commission. If not, the NPRM asks what intercarrier compensation obligations apply, and to what entity, for traffic that a VoIP provider originates or terminates in partnership with a competitive tandem provider that is not certified by the Commission or any state commission.[45]

7. VoIP Interconnection

21. The NPRM seeks comment generally on the effect that direct access to numbers will have on the industry's transition to direct interconnection in IP, and on the status of IP interconnection for VoIP providers today.[46] The NPRM also asks how many VoIP interconnection agreements currently exist and how parties to those agreements treat technical issues. Comment is further sought on whether access to numbers will increase call routing efficiency when one of the providers is a VoIP provider, and whether such efficiency will affect the likelihood of parties entering into agreements for VoIP interconnection.[47]

22. The NPRM also seeks comment on the extent to which its proposals would promote IP interconnection. As stated in the NPRM, the Commission expects that granting VoIP providers direct access to numbers would facilitate several types of VoIP interconnection, including interconnection between over-the-top VoIP providers and cable providers, interconnection between two over-the-top providers, and interconnection between cable providers.[48] Comment is sought on this analysis, and on whether granting VoIP providers direct access to numbers will encourage IP-to-IP interconnection by eliminating disincentives to interconnect in IP format and lowering the costs associated with

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[42] *USF/ICC Transformation Order*, 26 FCC Rcd at 17676–77, para. 35. "Under bill-and-keep arrangements, a carrier generally looks to its end-users—which are the entities and individuals making the choice to subscribe to that network—rather than looking to other carriers and their customers to pay for the costs of its network. To the extent additional subsidies are necessary, such subsidies will come from the Connect America Fund, and/or state universal service funds." *USF/ICC Transformation Order*, 26 FCC Rcd at 17904, para. 737.

[43] *See supra* Section III.B.2.

[44] *See id*.

[45] *See id*.

[46] *See supra* Section III.B.3.

[47] *See id*.

[48] *See id*.

implementing IP-to-IP interconnection agreements. The NPRM further asks whether direct access to numbers will affect the rights and obligations of service providers with regards to VoIP interconnection.[49]

8. Local Number Portability Obligations

23. The NPRM proposes to modify the Commission's rules to include language specifying that users of interconnected VoIP services should enjoy the benefits of local number portability without regard to whether the VoIP provider obtains numbers directly or through a carrier partner. The NPRM seeks comment on this proposal.[50]

24. In the *VoIP LNP Order*, the Commission clarified that carriers "must port-out NANP telephone numbers *upon valid requests* from an interconnected VoIP provider (or from its associated numbering partner)."[51] Some CLECs have argued that a port directly to a non-carrier interconnected VoIP provider (that has not been certificated by a state), is not a "valid port request," so there is no obligation to port directly to a non-carrier interconnected VoIP provider. The NPRM proposes rules that will better reflect this obligation by making clear the requirement to port directly to a non-carrier interconnected VoIP provider upon request. This proposed rule change should eliminate any argument that a request to port to a VoIP provider is invalid merely because the ported-to entity is a VoIP provider. In doing so, the proposed rule will benefit users of interconnected VoIP services by increasing the ease of portability.[52]

25. The NPRM also notes that the Commission has established geographic limits on the extent to which a provider must port numbers. The NPRM seeks comment on the geographic limitations, if any, that should apply to ports between a wireline carrier and an interconnected VoIP provider that has obtained its numbers directly from the number administrators, or between a wireless carrier and an interconnected VoIP provider that has obtained its numbers directly from the number administrators. The NPRM asks further whether geographic limits on porting directly between an interconnected VoIP provider and another carrier are necessary.[53] Comment is also sought on whether, as a practical matter, interconnected VoIP providers will need to partner with a carrier numbering partner to port numbers in some or all instances, even if they are granted direct access to numbers.[54]

9. Transitioning to Direct Access

26. On a general level, the NPRM seeks comment on whether the changes proposed herein should be adopted on a gradual or phased-in basis. More specifically, the NPRM asks what timeframes would be appropriate for a graduated transition, and what period of time would permit the industry to adjust to the proposed changes. Comment is also sought on what steps the Commission should take to ensure that any transition to direct access to numbers by interconnected VoIP providers occurs without unnecessary disruption to consumers or the industry.[55]

10. Innovative Uses of Numbers

27. The NPRM notes that beyond interconnected VoIP providers, an increasingly wide array of services and applications rely on telephone numbers as the addressing system for communications, including home security systems, payment authorization services, text messaging services, and

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[49] *See id*.

[50] *See supra* Section III.B.4.

[51] *VoIP LNP Order*, 22 FCC Rcd at 19550, para. 35 n.119 (emphasis added).

[52] *See supra* Section III.B.4.

[53] *See id*.

[54] *See id*.

[55] *See supra* Section III.B.5.

telematics.[56] The NPRM therefore seeks comment on whether the Commission should expand access to numbers beyond the proposal regarding interconnected VoIP providers. Specifically, the NPRM asks whether access to numbers should be expanded to one-way VoIP providers. The NPRM also seeks comment on the types of services and applications that use numbers today and that are likely to do so in the future. Comment is further sought on the potential benefits and risks of expanding direct access to numbers, and any safeguards or countermeasures that could be employed to counteract any conceivable downsides. The NPRM also asks whether there are distinguishing or limiting factors that should govern whether and how specific services or providers receive certain types of numbers. Comment is sought on whether the same criteria and conditions should be implemented regardless of the service or technology offered if interconnected VoIP providers and other types of entities are granted direct access to numbers.[57]

11. Access to p-ANI Codes for Public Safety Purposes

28. The NPRM seeks comment on whether the Commission should modify section 52.15(g)(2)(i) of its rules[58] to allow VoIP Positioning Center (VPC) providers direct access to numbers, specifically p-ANI codes, for the purpose of providing 911 and E911 service. In the *Waiver Order*, the Commission found good cause to grant the petition of TeleCommunication Systems, Inc. (TCS), allowing it direct access to p-ANI codes from the RNA in states where it is unable to obtain certification while the Commission adopts final rules for direct access to numbers. The NPRM asks whether all VPC providers should be allowed direct access to p-ANI codes. Comment is further sought on whether there are any costs or benefits to allowing VPC providers direct access to p-ANI codes, and whether such access would help to encourage the continued growth of interconnected VoIP services. The NPRM also asks whether there are any technical or policy reasons why VPC providers should be denied direct access to p-ANI codes. Lastly, the NPRM asks whether any evidence of authorization should be required for VPC providers to access p-ANI codes.[59]

12. Legal Authority

29. The NPRM also seeks comment on the Commission's legal authority to adopt the various requirements proposed. Comment is sought on the Commission's plenary authority under Section 251(e)(1) of the Act to impose the various proposed requirements on interconnected VoIP providers obtaining direct access to numbers. The NPRM also asks whether imposing numbering obligations on interconnected VoIP providers would be reasonably ancillary to the Commission's performance of particular statutory duties, such as those under sections 251 and 201 of the Act, to allow the Commission to impose such obligations under its Title I ancillary authority.[60]

B. Legal Basis

30. The legal basis for any action that may be taken pursuant to the NPRM is contained in sections 1, 3, 4, 201-205, 251, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 153, 154, 201-205, 251, and 303(r).

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

[56] *See supra* Section III.C.1.

[57] *See id*.

[58] *See* 47 C.F.R. §52.15(g)(2)(i).

[59] *See supra* Section III.C.2.

[60] *See supra* Section III.D.

31. The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.[61] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[62] In addition, the term "small business" has the same meaning as the term "small-business concern" under the Small Business Act.[63] A small-business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.[64]

32. **Small Businesses**. A small business is an independent business having less than 500 employees. Nationwide, there are a total of approximately 27.9 million small businesses, according to the SBA.[65] Affected small entities as defined by industry are as follows.

33. **Wired Telecommunications Carriers**. The SBA has developed a small business size standard for Wired Telecommunications Carriers, which consists of all such companies having 1,500 or fewer employees.[66] According to Census Bureau data for 2007, there were 3,188 firms in this category, total, that operated for the entire year.[67] Of this total, 3144 firms had employment of 999 or fewer employees, and 44 firms had employment of 1000 employees or more.[68] Thus, under this size standard, the majority of firms can be considered small.

34. **Local Exchange Carriers (LECs)**. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to local exchange services. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[69] According to Commission data, 1,307 carriers reported that they were incumbent local exchange service providers.[70] Of these 1,307 carriers, an estimated 1,006 have 1,500 or fewer employees and 301 have more than 1,500 employees.[71] Consequently, the Commission estimates that most providers of local exchange service are small entities that may be affected by the rules and policies proposed in the NPRM.

35. **Incumbent Local Exchange Carriers (incumbent LECs)**. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to incumbent local exchange services. The closest applicable size standard under SBA rules is for Wired

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[61] *See* 5 U.S.C. § 603(b)(3).

[62] *See* 5 U.S.C. § 601(6).

[63] *See* 5 U.S.C. § 601(3) (incorporating by reference the definition of "small-business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[64] *See* 15 U.S.C. § 632.

[65] *See* SBA, Office of Advocacy, "Frequently Asked Questions," *available at* http://www.sba.gov/sites/default/files/FAQ_Sept_2012.pdf (lastvisited Mar. 27, 2012).

[66] 13 C.F.R. § 121.201, NAICS code 517110.

[67] U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Estab and Firm Size: Table 5, "Employment Size of Firms for the United States: 2007, NAICS Code 517110" (issued Nov. 2010).

[68] *See id*.

[69] 13 C.F.R. § 121.201, NAICS code 517110.

[70] *See Trends in Telephone Service*, Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division at Table 5.3 (Sept. 2010) (*Trends in Telephone Service*).

[71] *See id*.

Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[72] According to Commission data, 1,307 carriers reported that they were incumbent local exchange service providers.[73] Of these 1,307 carriers, an estimated 1,006 have 1,500 or fewer employees and 301 have more than 1,500 employees.[74] Consequently, the Commission estimates that most providers of incumbent local exchange service are small businesses that may be affected by rules adopted pursuant to the NPRM.

36. We have included small incumbent LECs in this present RFA analysis. As noted above, a "small business" under the RFA is one that, *inter alia*, meets the pertinent small business size standard (*e.g.*, a telephone communications business having 1,500 or fewer employees), and "is not dominant in its field of operation."[75] The SBA's Office of Advocacy contends that, for RFA purposes, small incumbent LECs are not dominant in their field of operation because any such dominance is not "national" in scope.[76] We have therefore included small incumbent LECs in this RFA analysis, although we emphasize that this RFA action has no effect on Commission analyses and determinations in other, non-RFA contexts.

37. **Competitive Local Exchange Carriers (competitive LECs), Competitive Access Providers (CAPs), Shared-Tenant Service Providers, and Other Local Service Providers.** Neither the Commission nor the SBA has developed a small business size standard specifically for these service providers. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[77] According to Commission data, 1,442 carriers reported that they were engaged in the provision of either competitive local exchange services or competitive access provider services.[78] Of these 1,442 carriers, an estimated 1,256 have 1,500 or fewer employees and 186 have more than 1,500 employees.[79] In addition, 17 carriers have reported that they are Shared-Tenant Service Providers, and all 17 are estimated to have 1,500 or fewer employees.[80] In addition, 72 carriers have reported that they are Other Local Service Providers.[81] Of the 72, seventy have 1,500 or fewer employees and two have more than 1,500 employees.[82] Consequently, the Commission estimates that most providers of competitive local exchange service, competitive access providers, Shared-Tenant Service Providers, and Other Local Service Providers are small entities that may be affected by rules adopted pursuant to the NPRM.

38. **Interexchange Carriers (IXCs)**. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to interexchange services. The closest

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[72] *See* 13 C.F.R. § 121.201, NAICS code 517110.

[73] *See Trends in Telephone Service* at Table 5.3.

[74] *See id*.

[75] 5 U.S.C. § 601(3).

[76] *See* Letter from Jere W. Glover, Chief Counsel for Advocacy, SBA, to William E. Kennard, Chairman, FCC (May 27, 1999). The Small Business Act contains a definition of "small business concern," which the RFA incorporates into its own definition of "small business." *See* 15 U.S.C. § 632(a); *see also* 5 U.S.C. § 601(3). SBA regulations interpret "small business concern" to include the concept of dominance on a national basis. *See* 13 C.F.R. § 121.102(b).

[77] *See* 13 C.F.R. § 121.201, NAICS code 517110.

[78] *See Trends in Telephone Service* at Table 5.3.

[79] *See id.*

[80] *See id*.

[81] *See id*.

[82] *See id*.

applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[83] According to Commission data, 359 companies reported that their primary telecommunications service activity was the provision of interexchange services.[84] Of these 359 companies, an estimated 317 have 1,500 or fewer employees and 42 have more than 1,500 employees.[85] Consequently, the Commission estimates that the majority of interexchange service providers are small entities that may be affected by rules adopted pursuant to the NPRM.

39. **Local Resellers**. The SBA has developed a small business size standard for the category of Telecommunications Resellers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[86] According to Commission data, 213 carriers have reported that they are engaged in the provision of local resale services.[87] Of these, an estimated 211 have 1,500 or fewer employees and two have more than 1,500 employees.[88] Consequently, the Commission estimates that the majority of local resellers are small entities that may be affected by rules adopted pursuant to the NPRM.

40. **Toll Resellers**. The SBA has developed a small business size standard for the category of Telecommunications Resellers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[89] According to Commission data, 881 carriers have reported that they are engaged in the provision of toll resale services.[90] Of these, an estimated 857 have 1,500 or fewer employees and 24 have more than 1,500 employees.[91] Consequently, the Commission estimates that the majority of toll resellers are small entities that may be affected by rules adopted pursuant to the NPRM.

41. **Other Toll Carriers**. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to Other Toll Carriers. This category includes toll carriers that do not fall within the categories of interexchange carriers, operator service providers, prepaid calling card providers, satellite service carriers, or toll resellers. The closest applicable size standard under SBA rules is for Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.[92] According to Commission data, 284 companies reported that their primary telecommunications service activity was the provision of other toll carriage.[93] Of these, an estimated 279 have 1,500 or fewer employees and five have more than 1,500 employees.[94] Consequently, the Commission estimates that most Other Toll Carriers are small entities that may be affected by the rules and policies adopted pursuant to the NPRM.

42. **Wireless Telecommunications Carriers (except Satellite)**. Since 2007, the SBA has recognized wireless firms within this new, broad, economic census category.[95] Prior to that time, such

[83] *See* 13 C.F.R. § 121.201, NAICS code 517110.

[84] *See Trends in Telephone Service* at Table 5.3.

[85] *See id.*

[86] *See* 13 C.F.R. § 121.201, NAICS code 517911.

[87] *See Trends in Telephone Service* at Table 5.3.

[88] *See id*.

[89] *See* 13 C.F.R. § 121.201, NAICS code 517911.

[90] *See Trends in Telephone Service* at Table 5.3.

[91] *See id*.

[92] *See* 13 C.F.R. § 121.201, NAICS code 517110.

[93] *See Trends in Telephone Service* at Table 5.3.

[94] *See id*.

[95] *See* 13 C.F.R. § 121.201, NAICS code 517210.

firms were within the now-superseded categories of Paging and Cellular and Other Wireless Telecommunications.[96] Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.[97] For this category, census data for 2007 show that there were 1,383 firms that operated for the entire year.[98] Of this total, 1,368 firms had employment of 999 or fewer employees and 15 had employment of 1000 employees or more.[99] Similarly, according to Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, Personal Communications Service (PCS), and Specialized Mobile Radio (SMR) Telephony services.[100] Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees.[101] Consequently, the Commission estimates that approximately half or more of these firms can be considered small. Thus, using available data, we estimate that the majority of wireless firms can be considered small.

43. **Paging (Private and Common Carrier)**. In the *Paging Third Report and Order*, we developed a small business size standard for "small businesses" and "very small businesses" for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[102] A "small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $15 million for the preceding three years. Additionally, a "very small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the preceding three years. The SBA has approved these small business size standards.[103] According to Commission data, 291 carriers have reported that they are engaged in Paging or Messaging Service.[104] Of these, an estimated 289 have 1,500 or fewer employees, and two have more than 1,500 employees.[105] Consequently, the Commission estimates that the majority of paging providers are small entities that may be affected by our action. An auction of Metropolitan Economic Area licenses commenced on February 24, 2000, and closed on March 2, 2000. Of the 2,499 licenses auctioned, 985 were sold. Fifty-seven companies claiming small business status won 440 licenses. A subsequent auction of MEA and Economic Area ("EA") licenses was held in the year 2001. Of the 15,514 licenses auctioned, 5,323 were sold.[106] One hundred thirty-two companies claiming small

[96] U.S. Census Bureau, 2002 NAICS Definitions, "517211 Paging," *available at* http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517211&search=2002%20NAICS%20Search (last visited Mar. 27, 2013); U.S. Census Bureau, 2002 NAICS Definitions, "517212 Cellular and Other Wireless Telecommunications," *available at* http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517212&search=2002%20NAICS%20Search (last visited Mar. 27, 2013).

[97] 13 C.F.R. § 121.201, NAICS code 517210. The now-superseded, pre-2007 C.F.R. citations were 13 C.F.R. § 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

[98] U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Estab and Firm Size: Table 5, "Employment Size of Firms for the United States: 2007, NAICS Code 517210" (issued Nov. 2010).

[99] *Id*. Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

[100] *See Trends in Telephone Service* at Table 5.3.

[101] *See id*.

[102] *See Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems*, WT Docket No. 96-18, PR Docket No. 93-253, Memorandum Opinion and Order on Reconsideration and Third Report and Order, 14 FCC Rcd 10030, 10085–88, paras. 98–107 (1999) (*Paging Third Report and Order*)

[103] *See Alvarez Letter 1998*.

[104] *See Trends in Telephone Service* at Table 5.3.

[105] *See id*.

[106] *See* "*Lower and Upper Paging Band Auction Closes*," Public Notice, DA 01-2858, 16 FCC Rcd 21821 (2002).

business status purchased 3,724 licenses. A third auction, consisting of 8,874 licenses in each of 175 EAs and 1,328 licenses in all but three of the 51 MEAs, was held in 2003. Seventy-seven bidders claiming small or very small business status won 2,093 licenses.[107] A fourth auction of 9,603 lower and upper band paging licenses was held in the year 2010. Twenty-nine bidders claiming small or very small business status won 3,016 licenses.[108] On February 1, 2013, the Wireless Telecommunications Bureau announced an auction of 5,905 lower and upper band paging licenses to commence on July 16, 2013, and sought comment for the procedures to be used for this auction.[109]

44. **Cable and Other Program Distribution.** Since 2007, these services have been defined within the broad economic census category of Wired Telecommunications Carriers; that category is defined as follows: "This industry comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks. Transmission facilities may be based on a single technology or a combination of technologies."[110] The SBA has developed a small business size standard for this category, which is: all such firms having 1,500 or fewer employees.[111] According to Census Bureau data for 2007, there were a total of 955 firms in this previous category that operated for the entire year.[112] Of this total, 939 firms had employment of 999 or fewer employees, and 16 firms had employment of 1000 employees or more.[113] Thus, under this size standard, the majority of firms can be considered small and may be affected by rules adopted pursuant to the NPRM.

45. **Cable Companies and Systems**. The Commission has developed its own small business size standards, for the purpose of cable rate regulation. Under the Commission's rules, a "small cable company" is one serving 400,000 or fewer subscribers, nationwide.[114] Industry data indicate that, of 1,076 cable operators nationwide, all but eleven are small under this size standard.[115] In addition, under the Commission's rules, a "small system" is a cable system serving 15,000 or fewer subscribers.[116]

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[107] *See* "*Lower and Upper Paging Bands Auction Closes*," Public Notice, DA 03-1836, 18 FCC Rcd 11154 (2003). The current number of small or very small business entities that hold wireless licenses may differ significantly from the number of such entities that won in spectrum auctions due to assignments and transfers of licenses in the secondary market over time. In addition, some of the same small business entities may have won licenses in more than one auction.

[108] *See* "*Lower and Upper Paging Bands Auction Closes*," Public Notice, 25 FCC Rcd 18164 (2010).

[109] *See* "*Auction of Lower and Upper Paging Bands Licenses Scheduled For July 16, 2013, Comment Sought on Competitive Bidding Procedures for Auction 95,*" Public Notice, 28 FCC Rcd 882 (2012).

[110] U.S. Census Bureau, 2007 NAICS Definitions, "517110 Wired Telecommunications Carriers" (partial definition), *available at* http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517110&search=2007%20NAICS%20Search (lastvisited Mar. 27, 2013).

[111] 13 C.F.R. § 121.201, NAICS code 517110.

[112] U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Estab and Firm Size: Table 5, "Employment Size of Firms for the United States: 2007, NAICS Code 5171102" (issued Nov. 2010).

[113] *See id*.

[114] *See* 47 C.F.R. § 76.901(e). The Commission determined that this size standard equates approximately to a size standard of $100 million or less in annual revenues. *See Implementation of Sections of the 1992 Cable Television Consumer Protection and Competition Act: Rate Regulation*, MM Docket Nos. 92-266, 93-215, Sixth Report and Order and Eleventh Order on Reconsideration, 10 FCC Rcd 7393, 7408 para. 28 (1995).

[115] These data are derived from R.R. BOWKER, BROADCASTING & CABLE YEARBOOK 2006, "Top 25 Cable/Satellite Operators," pages A-8 & C-2 (data current as of June 30, 2005); WARREN COMMUNICATIONS NEWS, TELEVISION & CABLE FACTBOOK 2006, "Ownership of Cable Systems in the United States," pages D-1805 to D-1857.

[116] *See* 47 C.F.R. § 76.901(c).

Industry data indicate that, of 7,208 systems nationwide, 6,139 systems have under 10,000 subscribers, and an additional 379 systems have 10,000-19,999 subscribers.[117] Thus, under this second size standard, most cable systems are small and may be affected by rules adopted pursuant to the NPRM.

46. **Cable System Operators**. The Act also contains a size standard for small cable system operators, which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than 1 percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed $250,000,000."[118] The Commission has determined that an operator serving fewer than 677,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all its affiliates, do not exceed $250 million in the aggregate.[119] Industry data indicate that, of 1,076 cable operators nationwide, all but ten are small under this size standard.[120] We note that the Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed $250 million,[121] and therefore we are unable to estimate more accurately the number of cable system operators that would qualify as small under this size standard.

47. **Internet Service Providers**. Since 2007, these services have been defined within the broad economic census category of Wired Telecommunications Carriers; that category is defined as follows: "This industry comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks. Transmission facilities may be based on a single technology or a combination of technologies."[122] The SBA has developed a small business size standard for this category, which is: all such firms having 1,500 or fewer employees.[123] According to Census Bureau data for 2007, there were 3,188 firms in this category, total, that operated for the entire year.[124] Of this total, 3,144 firms had employment of 999 or fewer employees, and 44 firms had employment of 1000 employees or more.[125] Thus, under this size standard, the majority of firms can be considered small. In addition, according to Census Bureau data for 2007, there were a total of 396 firms in the category Internet Service Providers (broadband) that operated for the entire year.[126] Of this total,

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[117] WARREN COMMUNICATIONS NEWS, TELEVISION & CABLE FACTBOOK 2006, "U.S. Cable Systems by Subscriber Size," page F-2 (data current as of Oct. 2005). The data do not include 718 systems for which classifying data were not available.

[118] 47 U.S.C. § 543(m)(2); *see also* 47 C.F.R. § 76.901(f) & nn.1–3.

[119] 47 C.F.R. § 76.901(f); *see FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, Public Notice, 16 FCC Rcd 2225 (Cable Services Bureau 2001).

[120] These data are derived from R.R. BOWKER, BROADCASTING & CABLE YEARBOOK 2006, "Top 25 Cable/Satellite Operators," pages A-8 & C-2 (data current as of June 30, 2005); WARREN COMMUNICATIONS NEWS, TELEVISION & CABLE FACTBOOK 2006, "Ownership of Cable Systems in the United States," pages D-1805 to D-1857.

[121] The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority's finding that the operator does not qualify as a small cable operator pursuant to § 76.901(f) of the Commission's rules.

[122] U.S. Census Bureau, 2007 NAICS Definitions, "517110 Wired Telecommunications Carriers" (partial definition), *available at* http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517110&search=2007%20NAICS%20Search (lastvisited Mar. 27, 2013).

[123] 13 C.F.R. § 121.201, NAICS code 517110.

[124] U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Estab and Firm Size: Table 5, "Employment Size of Firms for the United States: 2007, NAICS Code 517110" (issued Nov. 2010).

[125] *See id*.

[126] U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Estab and Firm Size: Table 5, "Employment Size of Firms for the United States: 2007, NAICS Code 5171103" (issued Nov. 2010).

394 firms had employment of 999 or fewer employees, and two firms had employment of 1000 employees or more.[127] Consequently, we estimate that the majority of these firms are small entities that may be affected by rules adopted pursuant to the NPRM.

48. **Internet Publishing and Broadcasting and Web Search Portals**. Our action may pertain to interconnected VoIP services, which could be provided by entities that provide other services such as email, online gaming, web browsing, video conferencing, instant messaging, and other, similar IP-enabled services. The Commission has not adopted a size standard for entities that create or provide these types of services or applications. However, the Census Bureau has identified firms that "primarily engaged in (1) publishing and/or broadcasting content on the Internet exclusively or (2) operating Web sites that use a search engine to generate and maintain extensive databases of Internet addresses and content in an easily searchable format (and known as Web search portals)."[128] The SBA has developed a small business size standard for this category, which is: all such firms having 500 or fewer employees.[129] According to Census Bureau data for 2007, there were 2,705 firms in this category that operated for the entire year.[130] Of this total, 2,682 firms had employment of 499 or fewer employees, and 23 firms had employment of 500 employees or more.[131] Consequently, we estimate that the majority of these firms are small entities that may be affected by rules adopted pursuant to the NPRM.

49. **All Other Information Services**. The Census Bureau defines this industry as including "establishments primarily engaged in providing other information services (except news syndicates, libraries, archives, Internet publishing and broadcasting, and Web search portals)."[132] Our action pertains to interconnected VoIP services, which could be provided by entities that provide other services such as email, online gaming, web browsing, video conferencing, instant messaging, and other, similar IP-enabled services. The SBA has developed a small business size standard for this category; that size standard is $7.0 million or less in average annual receipts.[133] According to Census Bureau data for 2007, there were 367 firms in this category that operated for the entire year.[134] Of these, 334 had annual receipts of under $5.0 million, and an additional 11 firms had receipts of between $5 million and $9,999,999.[135] Consequently, we estimate that the majority of these firms are small entities that may be affected by our action.

50. **All Other Telecommunications**. The Census Bureau defines this industry as including "establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes

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[127] *See id*.

[128] U.S. Census Bureau, "2007 NAICS Definitions: 519130 Internet Publishing and Broadcasting and Web Search Portals," *available at* http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=519130&search=2007%20NAICS%20Search (last visited Mar. 27, 2013).

[129] *See* 13 C.F.R. § 121.201, NAICS code 519130.

[130] U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Estab and Firm Size: Table 5, "Employment Size of Firms for the United States: 2007, NAICS Code 519130" (issued Nov. 2010).

[131] *Id*.

[132] U.S. Census Bureau, "2007 NAICS Definitions: 519190 All Other Information Services", *available at* http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=519190&search=2007%20NAICS%20Search (lastvisited Mar. 27, 2013).

[133] *See* 13 C.F.R. § 121.201, NAICS code 519190.

[134] U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Estab and Firm Size: Table 5, "Employment Size of Firms for the United States: 2007, NAICS Code 519190" (issued Nov. 2010).

[135] U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Estab and Firm Size: Table 4, "Receipts Size of Firms for the United States: 2007, NAICS Code 519190" (issued Nov. 2010).

establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Establishments providing Internet services or Voice over Internet Protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry."[136] The SBA has developed a small business size standard for this category; that size standard is $30.0 million or less in average annual receipts.[137] According to Census Bureau data for 2007, there were 2,383 firms in this category that operated for the entire year.[138] Of these, 2,305 establishments had annual receipts of under $10 million and 84 establishments had annual receipts of $10 million or more.[139] Consequently, we estimate that the majority of these firms are small entities that may be affected by our action.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

51. In the NPRM, the Commission proposes to require interconnected VoIP providers seeking direct access to numbers to submit specific documentation, a requirement which may necessitate filing FCC Form 477 with the Commission. The NPRM further proposes to require these providers to comply with the same numbering obligations and industry guidelines as traditional common carriers.[140] Specifically, interconnected VoIP providers will be required under section 52.15(f)(6) to file usage forecast and utilization (NRUF) reports on a semi-annual basis.[141] Compliance with these reporting obligations may affect small entities, and may include new administrative processes.

52. In the NPRM, the Commission also proposes to allow interconnected VoIP providers to obtain telephone numbers only from rate centers subject to pooling. The NPRM further suggests imposing a "facilities readiness" requirement on interconnected VoIP providers seeking direct access to numbers under section 52.15(g)(2)(ii) of the Commission's rules.[142] Under this proposal, providers would be required to provide evidence that they have ordered an interconnection service pursuant to a tariff that is generally available to other providers of IP-enabled voice services. The NPRM also proposes to require interconnected VoIP providers to file any requests for numbers with the Commission and relevant state commission at least 30 days prior to requesting numbers from the number administrators.

53. In the NPRM, the Commission further proposes to require all interconnected VoIP providers seeking direct access to numbers to: (1) maintain at least 65 percent number utilization across its telephone number inventory; (2) offer IP interconnection to other carriers and providers; and (3) 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. Moreover, the NPRM proposes to require these providers to: (1) provide the relevant state commission with regulatory and numbering contacts upon first requesting numbers in that state; (2) consolidate and report all numbers

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[136] U.S. Census Bureau, "2007 NAICS Definitions: 517919 All Other Telecommunications," *available at* http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517919&search=2007%20NAICS%20Search (last visited Mar. 27, 2013).

[137] *See* 13 C.F.R. § 121.201, NAICS code 517919.

[138] U.S. Census Bureau, 2007 Economic Census, Information: Subject Series – Estab and Firm Size: Table 4, "Receipts Size of Firms for the United States: 2007, NAICS Code 517919" (issued Nov. 2010).

[139] *See id.*

[140] *See* 47 C.F.R. Part 52.

[141] 47 C.F.R. § 52.15(f)(6).

[142] Section 52.15(g)(2)(ii) of the Commission's rules requires that an applicant for initial numbering resources is or will be capable of providing service within sixty (60) days of the activation date of the numbering resources. 47 C.F.R. § 52.15(g)(2)(ii).

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.

54. In addition, the Commission proposes to amend its rules to establish "blanket" authorization for interconnected VoIP providers for access to numbering resources, or, in the alternative, to require interconnected VoIP providers to obtain a certification from the Commission before gaining direct access to numbering resources. The NPRM also proposes rules that will make clear the requirement to port directly to a non-carrier interconnected VoIP provider upon request. Compliance with these reporting obligations may affect small entities, and may include new administrative processes. We note parenthetically that in the NPRM, the Commission seeks comment on the benefits and burdens of these proposals, on the costs that these proposals are likely to impose on small entities, and how those onuses might be ameliorated. In some instances, the NPRM asks further whether there are other issues or significant alternatives that the Commission should consider to ease the burden of these proposed measures on small entities

E. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

55. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rules for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities."[143]

56. The Commission is aware that some of the proposals under consideration will impact small entities by imposing costs and administrative burdens. For this reason, the NPRM proposes a number of measures to minimize or eliminate the costs and burdens generated by compliance with the proposed rules.

57. First, the NPRM proposes to require only those interconnected VoIP providers seeking direct access to numbers to comply with the same numbering requirements and industry guidelines as traditional common carriers, including filing semi-annual NRUF reports under section 52.15(f)(6) of the Commission's rules.[144] Although the NPRM proposes to require such providers to submit specific documentation as a condition of obtaining numbers, the Commission has attempted to minimize this burden by proposing that this documentation take the form of pages 2 and 36 of FCC Form 477.[145] Since interconnected VoIP providers are already required to file this form with the Commission, this proposal should not have a significant economic impact on small entities. Moreover, the NPRM further seeks comment on the costs and burdens imposed on small entities from the rules resulting from this requirement, and on how those onuses might be ameliorated. It also asks whether there are other issues or significant alternatives that the Commission should consider to ease the burden of these proposed measures on small entities

58. The NPRM also proposes to impose a "facilities readiness" requirement on interconnected VoIP providers seeking direct access to numbers. Although this may obligate providers to provide evidence that they have ordered an interconnection service pursuant to a tariff, the NPRM seeks

[143] 5 U.S.C. § 603(c)(1)–(c)(4).

[144] *See supra* Section III.A.2.

[145] *See supra* Section III.A.1.

comment on whether there are better ways to demonstrate compliance with this requirement, and whether the Commission should modify this requirement to allow providers more flexibility.

59. The NPRM also proposes to require interconnected VoIP providers seeking direct access to numbers to: (1) maintain at least 65 percent number utilization across its telephone number inventory; (2) offer IP interconnection to other carriers and providers; and (3) 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. Because the Commission recognizes that some of these requirements may place an administrative burden and exert an economic impact on small entities, it seeks comment on whether it should impose these requirements on interconnected VoIP providers to begin with. Moreover, these requirements are only extended to those interconnected VoIP providers seeking direct access to numbers.

60. The NPRM proposes to require interconnected VoIP providers seeking direct access to numbers to: (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. While these requirements may impose administrative burdens on small entities, the Commission has limited them to interconnected VoIP providers seeking direct access to numbers. Additionally, the NPRM seeks comment on how providers of nomadic VoIP services could comply with a requirement to provide access to the locally-appropriate N11 numbers, in order to better ease the burden on such entities.

61. Although the NPRM proposes to require interconnected VoIP providers to obtain a certification from the Commission before gaining direct access to numbering resources, it also proposes, in the alternative, to amend the Commission's rules to establish "blanket" authorization for interconnected VoIP providers for access to numbering resources. This proposed alternative would decrease the administrative and cost burdens imposed on small entities.

62. The Commission expects to consider the economic impact on small entities, as identified in comments filed in response to the NPRM, in reaching its final conclusions and taking action in this proceeding. The proposed reporting requirements in the NPRM could have an economic impact on both small and large entities. However, the Commission believes that any impact of such requirements is outweighed by the accompanying benefits to the public and to the operation and efficiency of the telecommunications industry.

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

63. None.

STATEMENT OF
CHAIRMAN JULIUS GENACHOWSKI

Re: *Numbering Policies for Modern Communications*, WC Docket No. 13-97; *IP-Enabled Services*, WC Docket No. 04-36; *Telephone Number Requirements for IP-Enabled Service 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*; *Petition of TeleCommunication Systems, Inc. and HBF Group, Inc. for Waiver of Part 52 of the Commission's Rules*.

Today we seek to ease access to phone numbers for innovative online companies and new competitors, lowering the costs of competition and removing barriers to innovation.

Today's notice continues our ongoing agency-wide effort to modernize our rules for today's broadband marketplace, while promoting competition, protecting consumers and ensuring public safety.

We developed the country's first National Broadband Plan, providing a strategic roadmap for the transition to all-IP networks.

As recommended in the plan, we've approved landmark reforms of USF, and overhauled intercarrier compensation. We've sped the transition to next-generation 911. And we recently launched an agency-wide Technology Transitions Task Force to provide recommendations to modernize the Commission's policies.

Building on this work, this item proposes to reduce barriers to innovation and competition for innovative online providers of voice services.

Today these providers generally have to obtain telephone numbers through intermediate providers, raising costs and creating potential gatekeepers to the deployment of new services.

Removing these barriers has the potential to deliver real benefits to consumers.

It could help improve call quality thanks to fewer hand-offs for calls, and promote deployment of HD voice services. And it could fuel development of other innovative new products.

Already developers have used VoIP technology to develop new security features like automated phone calls or text messages when an online user attempts to change sensitive data in a mobile app.

Innovative VoIP technology is also being used to rapidly deploy call centers, for example for political campaigns, and to integrate automatic voice and text features into web sites.

We can only guess what's next.

As we strive to unleash these innovations and consumer benefits, we have to make sure that calls continue to complete reliably, that we don't create new opportunities for providers to game the intercarrier compensation system, and that we safeguard against number exhaust.

Today's notice asks critical questions on all these issues.

These questions are also why we're proceeding with a narrowly-tailored trial, to test technical issues that have been previously raised in the record.

This trial will provide a small pool of numbers to test giving VoIP providers direct access.

We have safeguards in place if problems arise, and a robust reporting and public comment process.

Some have argued that a technical trial is premature. I disagree.

This access to numbers proceeding has been going on since 2005, with many of the same comments and replies traded between parties time and again.

But the record we've received to date too often has simply been filled by hypothetical concerns answered with hypothetical solutions.

It's time for some data. The trial we adopt today is consistent with the data-driven approach we've adopted agency-wide, it will help us protect consumers, and I'm glad we're moving it forward.

Thank you to the entire Wireline Bureau team for their excellent work on this item, and to the Technology Transitions Task Force as well for their assistance.

STATEMENT OF
COMMISSIONER MIGNON L. CLYBURN

Re: *Numbering Policies for Modern Communications*, WC Docket No. 13-97; *IP-Enabled Services*, WC Docket No. 04-36; *Telephone Number Requirements for IP-Enabled Service 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*; *Petition of TeleCommunication Systems, Inc. and HBF Group, Inc. for Waiver of Part 52 of the Commission's Rules*.

While I am personally unaware of anyone who makes calls from a rotary phone at least on a regular basis, I know that there are thousands still in use. I retain fond memories of over-stretched cords, the constant moving and plugging in of that cumbersome device from room to room, and even the frustration I felt from the sound of a busy signal.

In actual years, that really wasn't so long ago, but as technology continues to rapidly evolve we must maintain a meaningful process of crafting rules that will dictate how the next voice, video, and data systems will be governed. I feel that this NPRM and order is yet another step in our understanding of how we will govern this space in the years to come. With a keen and steady eye toward promoting innovation, investment, and competition in the marketplace, I support this item.

This NPRM contains meaningful and probing questions designed to answer in part just how much benefit may be achieved by allowing direct access to numbering. And I expect that we will proceed with caution in considering any regime change that would permit allotments from the North American Numbering Plan Administration and the Pooling Administrator. As the item states, improved number conservation, the removal of barriers for innovative offerings, and the elimination of inefficiencies regarding the need for VoIP providers to obtain numbers through partners are all worthwhile objectives that the FCC should strive to actualize in a sensible and timely manner.

When it comes to the request for a waiver, which would allow Vonage to conduct a trial and directly obtain numbers from numbering pools rather than through the current partnering regime with traditional carriers, I am supportive because I feel that granting this request will provide an opportunity for us to better understand how a VoIP carrier would function if freed from a legacy regulatory framework. This particular waiver involves a small sample of numbers that Vonage will use during its trial – 145,000, where Vonage serves about 2.4 million subscribers today. This course will allow us to craft best practices that may be used in allowing VoIP carriers access to numbering pools – which may be an outcome of the IP transition – while not exhausting number sets in existing area codes.

As a former state regulator, I know how tied communities are to their area codes, and I trust that this waiver will not result in any state having to split a community between two codes. I am also happy to report that this waiver will conclude with a public comment period allowing parties the opportunity for constructive engagement that will inform the FCC's next steps. Regulators and customers will have the chance to share their experiences with Vonage during the waiver process as well, and those comments and the reports Vonage are required to submit will help inform the Commission as we decide on how best to structure the upcoming IP transition rulemaking.

Further, integrating TeleCommunication Systems' services with the pseudo-Automatic Numbering Identification will enhance 911 call centers' ability to determine where a VoIP call originates.

The combined effect of these waivers is, admittedly, quite small, but we must keep the larger picture in front mind when considering them. The IP transition is happening, and we must do everything

we can to ensure it as smooth as possible, for both industry and the public at large.

Knowing the differences between VoIP and traditional carriers' use of number pools – how long each holds a number and how long before that number can be recycled by another customer or carrier – as well as how this waiver has impacted state regulators and their customers, will make the much bigger step, IP transition, that much easier.

One of the toughest challenges of a communications' regulator is making sure that the well-intentioned rules we put in place today, will not stifle the technological opportunities of tomorrow. The granting of limited waivers is yet another tool in our nimble rulemaking arsenal that should be embraced whenever possible to keep our nation on the cutting edge of innovation.

I look forward to the comments to our NPRM, as well as the results of the trial. Both will assist the Commission in moving forward in a prudent and well-reasoned fashion, and once again, I thank the bureau for its diligent work. I want to offer much gratitude to Lisa Gelb, Bill Dever, Ann Stevens, Marilyn Jones, Julie Veach and the others for their tremendous work.

Thank you.

STATEMENT OF
COMMISSIONER JESSICA ROSENWORCEL

Re: *Numbering Policies for Modern Communications*, WC Docket No. 13-97; *IP-Enabled Services*, WC Docket No. 04-36; *Telephone Number Requirements for IP-Enabled Service 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*; *Petition of TeleCommunication Systems, Inc. and HBF Group, Inc. for Waiver of Part 52 of the Commission's Rules*.

I remember eighteen years ago when my parents in Hartford, Connecticut announced that henceforth, the childhood telephone number I had always known would change. The house had not changed. Same collection of New England antiques. Same drafty windows. Same bulky telephones bolted to the wall. But going forward, no more area code 203. Welcome to area code 860. Not an epic moment in the lifetime of area code expansion. But I recall the mild sense of dislocation. I remember feeling that something was different because something had changed.

What felt odd nearly two decades ago is now much more common. After all, the ways we communicate have changed dramatically. Our networks and the number of devices we use have multiplied. The link between number and place is still present, but that too has changed. People now move and take their numbers with them. Case in point: in my office here at the Commission, half of those who work with me have phone numbers with area codes that do not reflect where they live. And what is happening in my office is not unusual, it is happening across the country.

With all this change, however, what still matters is numbers. They are still an essential part of our communications networks. They are still an important part of the way we connect, a valuable and finite resource. We must plan for their use judiciously. We must plan for their use consistent with the law.

In the Communications Act, Congress directed this agency to ensure that numbers used for communications are distributed "on an equitable basis." The law requires distribution through "impartial entities." It also reserves for the Commission exclusive jurisdiction over numbering, but specifically provides the agency with authority to delegate tasks involving numbering to our state counterparts.

Consistent with the law, from time to time the Commission updates its numbering policies to reflect how the ways we communicate change. A decade ago, in 2003, the agency expanded number portability to wireless services. For the first time, consumers could take their number with them when they switched among wireless and wireline providers. A few years later, in 2007, the agency again updated its rules to let consumers keep their numbers when switching to Voice over Internet Protocol (VoIP) service. Both steps enhanced competition. Both steps were good for consumers.

Today, we update our policies yet again, to reflect further changes in communications and the technologies we use to connect. There are two critical parts to today's effort.

First, we conduct a broad rulemaking and inquiry into the operational implications of providing interconnected VoIP providers with direct access to numbering resources. The time is right. We are mid-course in a broader transition to IP services. VoIP subscriptions have risen more than 50 percent since 2008, and now number 37 million. Navigating the transition to IP-enabled services requires updating our policies. As we do so, we must always keep in mind the four essential values in the Communications Act: public safety, universal service, competition, and consumer protection. I think this effort is consistent with that approach. To this end, I appreciate that we ask questions about the impact this will

have on numbering exhaustion, routing, porting, and intercarrier compensation. I also appreciate that it includes queries about the changing nature of the link between number and place, calling and geography, and home and area code.

Second, we conduct a limited trial. We grant Vonage, a VoIP provider, a conditional six-month waiver to allow direct access to numbering resources. This is a test. It will allow us to identify any problems. It will allow us to have a real-time laboratory in which to study to issues. It will inform our process as we chart a course toward more permanent policies. So I am pleased that the Chairman accepted my recommendation to require the Wireline Competition Bureau to issue a report at the conclusion of the trial so that we will have the opportunity to learn from the results before we move on to final rules. Given our shared interest in these issues, I encourage our state counterparts to comment on this report and the impact of this trial.

The mechanics of this proceeding are complex. But like so many other things before the agency, this is a reminder of how the times we live in are transitional. My childhood home still has those bulky phones bolted to the wall, but they are supplemented by wireless devices, Internet connections—and technologies simply unimaginable two decades ago when the area code was changed.

In the face of all this change, updating how we manage our numbering resources is the right thing to do. I support this effort. A trial like this is a smart way to proceed. So thank you to the Wireline Competition Bureau for its efforts on these issues here and going forward.

STATEMENT OF
COMMISSIONER AJIT PAI

Re: *Numbering Policies for Modern Communications*, WC Docket No. 13-97; *IP-Enabled Services*, WC Docket No. 04-36; *Telephone Number Requirements for IP-Enabled Service 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*; *Petition of TeleCommunication Systems, Inc. and HBF Group, Inc. for Waiver of Part 52 of the Commission's Rules*.

Telephone numbers are at the heart of voice communications in the United States. They are used to connect one customer to another, to identify carriers on the public-switched telephone network (PSTN), to enable texting and multimedia messaging, and to route emergency calls. And yet, no one ever seems eager to talk about the Local Exchange Routing Guide or the Number Portability Administration Center or the North American Numbering Plan, let alone how to integrate those last-generation systems with next-generation technologies like the Session Initiation Protocol (for point-to-point Internet Protocol (IP)-based calls) or ENUM (for mapping telephone numbers into the Internet space).[1] In short, numbering gets no respect.

But today, numbers rightfully take center stage. We need to address the subject now because today's numbering system is becoming an anachronism. It assumes the dominance of old-school carriers interconnecting over time-division-multiplexed (TDM) circuits, using copper lines and the out-of-band Signaling System No. 7. But that's not how modern, IP-based networks operate.

This morning's item comes none too late. It's been nine years since then-Chairman Powell recognized that IP-based communications were the future and opened up a proceeding on IP-Enabled Services.[2] Since then, interconnected voice over IP service providers have proliferated and consumers have fled the PSTN. Meanwhile, the Commission has gained invaluable experience and perspectives. It has managed a database to allow point-to-point IP-based communications via telephone numbers.[3] It has established a Technology Transitions Policy Task Force.[4] And it has heard from its Technological Advisory Council that the old TDM infrastructure should sunset in the next five years.[5]

[1] Fun fact: The "E" in ENUM stands for E.164, the technical standard for telephone numbers, not "electronic." For a useful and readable description of ENUM and précis on the integration of traditional and IP-based networks, *see* http://www.cisco.com/web/about/ac123/ac147/archived_issues/ipj_5-2/enum.html. More intrepid readers can turn to the International Telecommunications Union. *See* http://www.itu.int/osg/spu/enum/.

[2] *See IP-Enabled Services*, WC Docket No. 04-36, Notice of Proposed Rulemaking, 19 FCC Rcd 4863 (2004).

[3] *See Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; E911 Requirements for IP-Enabled Service Providers*, CG Docket No. 03-123, CC Docket No. 98-67, WC Docket No. 05-196, Second Report and Order and Order on Reconsideration, 24 FCC Rcd 791 (2008) (creating the iTRS Numbering Database).

[4] Press Release, FCC Chairman Julius Genachowski Announces Formation of 'Technology Transitions Policy Task Force' (Dec. 10, 2012), *available at* http://go.usa.gov/TWFB; Statement of Commissioner Ajit Pai on the Formation of Technology Transitions Policy Task Force (Dec. 10, 2012), *available at* http://go.usa.gov/TWFw.

[5] Meeting of the Technological Advisory Council of the Federal Communications Commission (June 29, 2011), *available at* http://go.usa.gov/TWFe.

It is time for the FCC to acknowledge that the IP Transition is upon us—that old copper-based networks are fundamentally different from new IP-based networks, and that our legacy regulations slow down the transformation from old to new (not to mention investment and innovation). Last month, I highlighted the importance of revising numbering for next-generation networks as one task we must undertake to facilitate the IP Transition.[6] Needless to say, then, I am pleased that the Notice we adopt today takes a fresh look at many of our numbering rules, including those regarding number portability and numbering cost allocation.

I am particularly grateful to my colleagues for incorporating many of my suggestions. These related primarily to the upcoming trial that will allow interconnected VoIP providers to gain direct access to numbers. Most importantly, the trial now will place participants on a six-month schedule with a limited geographic scope, which will help us identify and hopefully resolve any unforeseen problems. And the trial will require reporting from participants on what worked and what didn't—for we can't benefit from the lessons learned unless we learn the lessons. Additionally, the Wireline Competition Bureau will report back to us (and the public) on the results of the trial, thanks to a proposal by my colleague, Commissioner Rosenworcel. All of these changes will ensure that the trial is a real experiment, one that will help us eschew opinions in favor of facts.

Speaking of trials, I feel compelled to mention another critical one that's necessary for a smooth, successful IP Transition: an All-IP Pilot Program. Just like the VoIP numbering trial we embrace today, an All-IP Pilot Program would allow providers to voluntarily test the waters of the IP Transition, in this case by turning off their old TDM electronics in a discrete number of wire centers and migrating consumers to an all-IP platform. Like today's trial, it would be geographically limited. Like today's trial, we'll need to include consumer protections to make sure that no consumer loses voice service. And like today's trial, we'll need to rigorously evaluate the results of that pilot program, so that we know how to make the IP Transition a success for all Americans. I hope we undertake the All-IP Pilot Program soon.

But enough words about that. Today is appropriately a day for numbers.[7] I want to thank the numbering team in the Wireline Competition Bureau for all their work on this item. I look forward to reviewing the results of the trial and moving forward with a Report and Order in this proceeding early next year.

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[6] Remarks of Commissioner Ajit Pai, "Two Paths to the Internet Protocol Transition," Hudson Institute, Washington, DC (Mar. 7, 2013), *available at* http://go.usa.gov/TWMj.

[7] *Cf*. Norton Juster, *The Phantom Tollbooth* 176–77 (1961) ("[The Dodecahedron asked,] 'Don't you know anything at all about numbers?' 'Well, I don't think they're very important,' snapped Milo, too embarrassed to admit the truth. 'NOT IMPORTANT!' roared the Dodecahedron, turning red with fury. 'Could you have tea for two without the two—or three blind mice without the three? Would there be four corners of the earth if there weren't a four? And how would you sail the seven seas without a seven? . . . Why, numbers are the most beautiful and valuable things in the world. Just follow me and I'll show you.' He turned on his heel and stalked off into the cave.").