

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

In the Matter of	)	
	)	
Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities	)	CG Docket No. 03-123
	)	
E911 Requirements for IP-Enabled Service Providers	)	WC Docket No. 05-196
	)	

**COMMENTS OF  
LEVEL 3 COMMUNICATIONS, LLC**

Level 3 Communications, LLC (“Level 3”) submits its comments in support of Sorenson Communications, Inc. (“Sorenson”) Petition.<sup>1</sup> Unless the Commission grants Sorenson’s petition, it will subject VRS and IP Relay services to restrictions not imposed on any other IP-enabled services, treating VRS and IP Relay services in a manner that is not functionally equivalent to other IP-enabled services such as interconnected VoIP. Moreover, it is technically and economically infeasible for a VRS or IP Relay service provider (or any underlying nationwide carrier) to provide ten digit NANP numbers in all local rate centers nationwide. Furthermore, because VRS and IP Relay services have nomadic capabilities, like many types of interconnected VoIP, there is no necessary correlation between the VRS or IP Relay user’s location and his or her telephone numbers. In this context, without grant of the relief Sorenson requests, the requirement to assign a “geographically appropriate NANP telephone number” would be arbitrary and capricious.

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<sup>1</sup> *Pleading Cycle Established for Comments on Petition of Sorenson Communications, Inc. for Declaratory Ruling or Limited Waiver of the Commission’s Rules*, Public Notice, WC Docket No. 05-196, CG Docket No. 03-123, DA 09-1789 (rel. Aug. 11, 2009).

## **I. INTRODUCTION AND SUMMMRY**

Level 3 is an international provider of advanced communications services to incumbent local exchange carriers, competitive local exchange carriers, Commercial Mobile Radio Service providers, voice over Internet Protocol (“VoIP”) providers, other content providers, including ISPs, and other enhanced service providers (“ESPs”). Level 3 operates a network of approximately 77,000 intercity route miles in the United States and Europe, and operates another approximately 27,000 route miles of metropolitan fiber network, in the United States and Europe, serving approximately 125 markets.

With its interconnection agreements and access to telephone numbers, Level 3 can offer its wholesale customers the ability to obtain telephone numbers and associated telecommunications services, such as direct inward dial and direct outward dial services and to originate and terminate IP-enabled services in areas that reach more than 83% of the households in the United States – in approximately 6,600 rate centers nationwide. Among other things, Level 3 has been an industry leader in deploying a network infrastructure to support delivery of interconnected VoIP E911 calls to the appropriate PSAPs in these areas.

As Sorenson explains in its Petition, Level 3 is an underlying provider to Sorenson of communications services and interconnectivity with the PSTN, including providing telephone numbers. While Level 3 has never intended to extend its services to every single rate center in the country, it has experienced first-hand, the practical impossibility of such a task for any provider. As a competitive wholesale carrier, Level 3 not only has experienced a good deal of resistance from incumbents of all sizes, but it has also experienced difficulty obtaining telephone numbers even in instances where it has established network facilities and interconnection. For example, presently Level 3 is unable to obtain numbering resources

throughout the entire state of New Hampshire (including for VRS and IP Relay users) even though it has had a local exchange certificate, network facilities and a solid customer base in place for more than a decade.<sup>2</sup>

Level 3's experience during a decade of working to expand its local exchange services footprint demonstrates that a mandate to provide a geographically appropriate/relevant North American Numbering Plan ("NANP") number in every rate center across the country is both economically infeasible and an unnecessarily inefficient use of numbering resources. Level 3 has invested years and billions of dollars into deploying a network that is designed to maximize coverage, performance, flexibility and scalability, and now operates the most far-reaching PSTN-interconnected network in the United States. Despite having done so, Level 3 can only offer numbers and related origination/termination, E911 and interconnection services in areas serving 83% of the population. The remaining areas are too sparsely populated to justify the investment and to support the ongoing operating costs. Level 3 estimates that in order to reach the remaining 17 percent of the nation's rate centers, it will cost more than it did to reach the first 83 percent. Even if interconnection agreements can be obtained with the local ILEC, many of whom are exempt from Section 251(c)'s interconnection and good faith negotiation and arbitration requirements, dedicated facilities still need to be constructed or purchased to backhaul

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<sup>2</sup> See Emergency Petition of Level 3 Communications, LLC, for the Assignment of Additional Telephone Numbers in Area Code 603, and for the Preemption of the Actions of the New Hampshire Public Utilities Commission Pursuant to Section 253 of the Communications Act of 1934, WCB Docket No. 08-154 (filed July 18, 2008). At that same time, Level 3 filed a request for an Special Temporary Authorization to be granted additional 1000 blocks in the rate centers already exhausted or facing most imminent exhaust, on the condition that such relief may be subject to revocation or suspension by the Commission at any time and that it would be granted without prejudice to the Commission's consideration of the merits. See Letter from John T. Nakahata, counsel to Level 3 Communications, LLC, to Dana Shaffer, Chief, Wireline Competition Bureau, WC Docket No. 08-154 (filed July 18, 2008) ("STA Request"). The Commission has received comment on Level 3's petition, but has taken no action either on the petition or the STA over the past year.

IP traffic to the rest of Level 3's network. These costs of adding more than a few incremental rate centers are prohibitive for Level 3, even with the extensive networks it has already deployed and service to approximately 6,600 rate centers. It is inconceivable that any carrier – let alone an information services provider such as Sorenson – could be able to establish the necessary PSTN connectivity in each of the approximately 18,000 rate centers nationwide.

As such, a strict requirement to assign a “geographically appropriate” NANP number – defined as a number in the customer's rate center – is technically and economically infeasible, and thus would be arbitrary and capricious. No other IP-enabled service is subject to such a requirement, and to impose such a requirement here violates the core principle of functional equivalency. Moreover, inasmuch as the Commission has also recognized that VRS and IP Relay Services are nomadic, such that E911 must be provided using customer-provided registered location, the “geographically appropriate” NANP number requirement is also irrational.

## II. COMMENTS

### **A. The Commission Recognized that IP-Enabled Services Can Be Geographically Nomadic, and Has Not Imposed a “Geographically Appropriate” NANP Number Requirement on Any Other IP-Enabled Service.**

No nomadic IP-enabled service other than VRS and IP Relay are subject to a requirement to assign “geographically appropriate” NANP numbers. This contrasts sharply with interconnected VoIP services used by speech and hearing-able persons. With respect to interconnected VoIP, the Commission emphasized that one of the advantages customers of these IP-enabled services often seek is the ability to purchase and use services in a manner that is not required to be physically tied to a particular geographic location; as the Commission observed with respect to Vonage's interconnected VoIP service, “[t]he Internet's inherently global and

open architecture obviates the need for any correlation between Vonage's DigitalVoice service and its end users' geographic locations."<sup>3</sup> The power of IP-enabled services is that they allow consumers to establish a virtual presence in any location through their broadband connection.<sup>4</sup> In fact, many times, customers of these services request that they receive telephone numbers that are not based on their geographic location.<sup>5</sup> Were a "geographically appropriate" NANP number requirement to be applied to interconnected VoIP services, consumers would be denied this convenient and distinctive feature of interconnected voice.

The Commission's requirement to assign a geographically appropriate telephone number<sup>6</sup> is all the more perplexing because it assumes that VRS and IP Relay users access their services from a fixed site, even though elsewhere the Commission has recognized that these services are nomadic. With respect to emergency services, for example, the Commission recognized that Internet-based TRS could be used from more than one location, and thus required each provider

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<sup>3</sup> *Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, Memorandum Opinion and Order, WC Docket No. 03-211, 19 FCC Rcd. 22404, 22419 ¶ 24 (2004), *aff'd*, *Minnesota Pub. Util. Comm'n. v. FCC*, 483 F.3d 570 (8th Cir. Mar. 21, 2007) ("*Vonage Preemption Order*").

<sup>4</sup> *Id.* at 22419, ¶¶ 23-24.

<sup>5</sup> See *Telephone Number Requirements for IP-Enabled Services Providers, Local Number Portability Porting Interval and Validation Requirements; IP-Enabled Services; Telephone Number Portability; CTIA Petitions for Declaratory Ruling on Wireline-Wireless Porting Issues; Final Regulatory Flexibility Analysis; Numbering Resource Optimization*, Report and Order, Declaratory Ruling, Order on Remand, and Notice of Proposed Rulemaking, 22 FCC Rcd. 19531, 19550 ¶ 34 n.114 (2007) ("interconnected VoIP providers offer telephone numbers not necessarily based on the geographic location of their customers – many time at their customers' requests.").

<sup>6</sup> *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; E911 Requirements for IP-Enabled Service Providers*, Report and Order and Further Notice of Proposed Rulemaking, 23 FCC Rcd. 11591, 111608 (2008) ("*IP TRS Order*"). Even in that case, the Commission acknowledged one of the difficulties in layering IP-based technologies and services over a telephone numbers-based system, that is, that the Internet networks upon which IP Relay and other IP-enabled services ride require the use of IP addresses and do not use or even require a NANP telephone number. *Id.*, at 11603, ¶ 23. To many consumers and others in the industry, this non-geographic-based aspect of IP technologies is one of its advantages and the model to which many services are transitioning.

of Internet-based TRS to obtain and maintain location information from each of their registered end users.<sup>7</sup> This would not have been necessary if Internet-based TRS users always placed or received calls through a single site.

To the extent that what the Commission was trying to accomplish was to ensure that VRS and IP Relay users could obtain NANP numbers that could be reached through a local call in the area of their choice – which would be comparable to the service options available to interconnected VoIP users – Sorenson’s petition would accomplish this objective. But by imposing the “geographically appropriate” NANP number requirement, the Commission makes VRS and IP relay services less functional than the comparable IP-enabled services used by persons with full hearing and speech capabilities. This frustrates, rather than promotes, functional equivalency.

**B. Obtaining Numbers in Every Rate Center is Not Economically or Operationally Feasible.**

As Sorenson described in great detail, it is technically and economically infeasible for IP Relay providers, or their telecommunications providers, to obtain telephone numbers in every rate center. Level 3 supports and agrees with Sorenson’s discussion of the specific difficulties Level 3 has encountered in its attempts to expand the rate centers in which it can provide telephone numbers to Sorenson. As the D.C. Circuit has stated, consideration of technical and economic feasibility is “made necessary by the bar against arbitrary and capricious decisionmaking.”<sup>8</sup>

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<sup>7</sup> *Id.* at 11620.

<sup>8</sup> *Nuvio v. FCC*, 473 F.3d 302, 303 (D.C. Cir. 2006); *Alliance for Cannabis Therapeutics v. DEA*, 930 F.2d 936, 940 (D.C. Cir. 1991)(“[i]mpossible requirements imposed by an agency are perforce unreasonable”).

Level 3 has spent more than a decade and billions of dollars building the largest PSTN interconnected network in the United States; a network that can reach more than 80% of the population in the country. In developing that network, Level 3 has negotiated or arbitrated hundreds of interconnection and traffic exchange agreements, deployed thousands of miles of fiber and spent countless hours identifying and overcoming obstacles to add rate centers to its network. Level 3 has continuously expanded its network into new areas, adding rate centers where practicable. Level 3, however, has effectively reached the point of diminishing returns, where adding new rate centers requires a larger investment of time and resources than the incremental number of accessible customers can justify.

Level 3 operates in an extraordinarily competitive marketplace and it can only expend limited resources for clearly justified business cases. In addition to the substantial costs of negotiating and obtaining interconnection agreements, which often will include having to terminate a rural ILEC's exemption from Section 251(c), Level 3 must create points of access to existing backbone fiber, rights of way, and construct or lease transport facilities. Simply having a few interconnected VoIP or IP Relay users in a small, rural rate center will never justify the costs of establishing local connections to the PSTN in those areas. As the broadband stimulus program has clearly demonstrated, a business case to expand communications networks any deeper into rural territories relying entirely on the commercial markets is infeasible. And if it is not feasible for a wholesale provider such as Level 3 to undertake such investment, when it can aggregate demand from many different wholesale customers, it will certainly not be feasible for any single wholesale customer to do so, with no benefits of scale.

Level 3 emphasizes, however, that because of discriminatory barriers erected by some, its ability to provide numbers to Sorenson is not limited to new rate centers. The State of New

Hampshire provides a prime example of state action that prevents the assignment of “geographically appropriate” telephone numbers to VRS and IP Relay users.

Since 2005, Level 3 has been unable to obtain any additional numbering resources – in 1000 blocks – in New Hampshire despite having satisfied all of the conditions for doing so. As a result, Level 3 faces a critical number shortage in New Hampshire, leaving it unable to meet the demands of its ISP and ESP customers for PSTN interconnectivity and numbers, and supporting communications services.<sup>9</sup> With many rate centers in complete exhaust, others at 99% utilization and many more far above the 75% utilization necessary for access to growth codes, Level 3 has been forced to turn away customers and their revenue in New Hampshire. This is occurring because the New Hampshire PUC has apparently decided that carriers must themselves serve end users in order to obtain numbers in New Hampshire<sup>10</sup> – even though the FCC has nowhere stated such a requirement and such a requirement prevents carriers such as Level 3 from acting in the role of numbering partner that the FCC has envisioned. Moreover, the New Hampshire PUC has blocked Level 3’s access to numbers while it considers, “whether CLECs, such as Level 3, [are entitled] to receive numbering resources for providers of non-traditional telephone-like service.”<sup>11</sup> VRS and IP Relay services are just such non-traditional telephone like services.

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<sup>9</sup> Comments of the New Hampshire Public Utilities Commission, WC Docket No. 08-154 at 6 (filed Aug. 8, 2008). The PUC’s position also ignores the FCC’s 25 year-old precedent that information service providers are end users. Reply Comments of Level 3 Communications, LLC, WC Docket No. 08-154 at 8 (filed Sept.10, 2008).

<sup>10</sup> Memorandum from Jody O’Marra to New Hampshire Public Utility Commissioners dated Mar. 20, 2008 at 10, Exhibit 8 to Emergency Petition of Level 3 Communications, LLC, for the Assignment of Additional Telephone Numbers in Area Code 603, and for the Preemption of the Actions of the New Hampshire Public Utilities Commission Pursuant to Section 253 of the Communications Act of 1934, WCB Docket No. 08-154 (filed July 18, 2008).

<sup>11</sup> See *STA Request*, supra n.2.

Fortunately, the FCC can clear away these obstacles and open up Level 3's ability to provide Sorenson with telephone numbers to assign to its VRS and IP Relay customers. Level 3's emergency safety valve petition for the assignment of additional numbers has been pending before the Commission for more than a year. At a minimum, the Commission should at least grant the request for an STA for additional numbers in New Hampshire – also now pending for over a year – so that Level 3 can provide numbers to Sorenson and its VRS and IP Relay users.

**C. The Requirement to Provide Geographically Appropriate Telephone Numbers in Every Rate Center Promotes an Inefficient Use of Numbering Resources.**

Setting aside the economic infeasibility for a moment, requiring IP Relay providers to obtain numbering resources in every rate center in which they provide service or have customers is an inefficient use of numbering resources, would also further strain the North American Numbering Plan Administrator's ("NANPA") and public utility commissions' efforts to conserve this resource. If implemented, the 100 percent coverage mandate would cause a tremendous waste of a limited public resource. Under the Commission's rules, if an IP Relay provider seeks to expand its services into a new rate center, it must obtain new telephone numbers to provide to its customers in that rate center. Sorenson has done an effective job of demonstrating why it is not feasible for each IP Relay provider to cobble together its own quilt of underlying carriers across the country and why it makes more sense to rely on underlying CLECs as their numbering partners. However, if the numbering partner does not have numbering resources available in a given rate center, that numbering partner must then obtain a full block of numbers in order to ultimately provide only a few numbers, perhaps even just one, to its IP Relay provider customer in that particular rate center. Without getting into all of the details of how number pooling works, the best case scenario would be that only a 1000 block of numbers is contaminated for the establishment of a geographically relevant IP Relay number. This outcome would, of course,

assume that number pooling were in place in every single rate center in the country and that is not the case. In rural, sparsely populated rate centers, some carriers have not even implemented SS7 and thus are not even capable of number pooling. In rate centers in which number pooling has not been implemented, which includes many of the rates centers not yet accessible by Level 3's network, the number conservation consequences are worse because the numbering provider must request a full code – 10,000 telephone numbers - in order to provide a handful to an IP Relay provider. The remaining numbers could eventually be used by the numbering partners' other customers; however, in most cases, these are rural rate centers where the population is too low to generate significant increased number usage. Instead, the additional several hundred or more than 9,000 numbers reserved by the local exchange carrier, will be unavailable for use by other companies or, at a minimum, held until they can be returned to the administrator. Neither result is desirable and both would be contrary to the public interest, particularly in NPAs that are facing number exhaust in the near future.

In contrast, if IP Relay service providers are able to obtain telephone numbers from adjacent (or other) rate centers in which their numbering providers have numbers available, in a manner similar to Sorenson's proposed "guest" number proposal, IP Relay providers would not need to make numbering requests that could result in inefficient usage of numbering resources. This approach would also put IP Relay providers on similar footing with other IP-enabled service providers who are free, within reason, to assign any telephone number to a subscriber without regard to the geographic relevance of the number.

### III. CONCLUSION

For the foregoing reasons, Level 3 supports Sorenson's Petition and urges the Commission to modify or waive its requirement that IP Relay providers obtain geographically appropriate telephone numbers for all of their subscribers.

Respectfully submitted,



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