

**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	)	

**COMMENTS OF SPENCER TELECOM, LLC**

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## EXECUTIVE SUMMARY

Permitting OTT VoIP providers to obtain direct access to numbering resources without any assurance of obtaining an IP interconnection agreement with the major ILECs is not likely to provide the Commission useful data. Due to the network effect, all providers must be able to reach the managed VoIP and TDM end users of the ILECs. Without a regulatory backstop to ensure IP interconnection is realized, such as Commission-supervised template IP interconnection agreements for each RBOC and an updated NECA tariffed IP interconnection offering, granting OTT VoIP providers direct access to numbers is unlikely to realize more efficient, direct IP interconnections between VoIP providers and ILECs. The Commission should reaffirm the duty to negotiate IP Interconnection in good faith in light of the major ILECs' refusals to negotiate IP Interconnection with competitors, and in addition should threaten enforcement action in response to service provider complaints. In light of the ILECs' continued refusal to negotiate the terms of IP Interconnection, Spencer supports COMPTTEL's proposal that the Commission oversee a negotiation of a master interconnection agreement between competitors and RBOCs which could be submitted to the states for approval and available for other carriers to opt-into or use as a template for State negotiations under the protections of the Act.

Finally, the refusal of some small RLECs to complete calls from RLEC customers to customers of CLECs in rural areas is as much a rural call completion issue as the completion of calls inbound to RLEC customers. The Commission's *Declaratory Ruling on Call Blocking* and any new rules addressing rural call completion should apply and be enforced regardless as to whether the called number is associated with a CLEC or is a direct numbering resource assigned to an OTT VoIP provider.

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**COMMENTS OF SPENCER TELECOM, LLC**

**I. INTRODUCTION**

Spencer Telecom, LLC (“Spencer”) submits these comments in response to the Notice of Proposed Rulemaking (“NPRM”) and Notice of Inquiry (“NOI”) issued by the Federal Communications Commission’s (“FCC” or “Commission”) on April 18, 2013,<sup>1</sup> in the above captioned proceedings.

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<sup>1</sup> *In the Matter of Numbering Policies for Modern Communications, IP-Enabled Services, Telephone Numbers for IP-Enabled Service Providers, Telephone Number Portability, Developing a Unified Intercarrier*

## II. TRIALS GRANTING INTERCONNECTED VOIP PROVIDERS DIRECT ACCESS TO NUMBERS ARE UNLIKELY TO PROVIDE THE COMMISSION WITH REAL-WORLD DATA ON VOIP INTERCONNECTION BECAUSE THE TRIAL DOES NOT ADDRESS THE REFUSAL OF ILECS TO INTERCONNECT ON AN IP BASIS

In the *Direct Access Order*, the Commission granted a temporary waiver of some of its rules to permit it “to conduct a trial to help inform [its] decision on whether, and if so how, the Commission should amend the rules to allow interconnected VoIP providers to obtain telephone numbers directly.”<sup>2</sup> Under this “time-limited waiver,” over-the-top (“OTT”) VoIP providers including Vonage, SmartEdgeNet, LLC, WillTel Communications, LLC, and IntelPeer, Inc. will “obtain a small pool of telephone numbers directly from the administrators for use in providing IP services, including VoIP services,” during a six month trial period, rather than indirectly through a telecommunications carrier as has been the long-standing industry practice.<sup>3</sup> The Commission believes these limited trials will provide “real-world data” on issues including “any potential technical complications, such as routing, intercarrier compensation, and number utilization, about which parties have expressed concern,”<sup>4</sup> and “issues relating to number exhaust, number porting, *VoIP Interconnection*”<sup>5</sup> and other issues.

In the Notice of Proposed Rulemaking, the Commission asks commenters whether “allowing interconnected VoIP providers direct access to numbers will spur the introduction of

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*Compensation Regime, Connect America Fund, Numbering Resource Optimization, 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 TeleCommunications Systems, Inc. and HBF Group, Inc. for Waiver of Part 52 of the Commission’s Rules*, WC Docket Nos. 13-97, 04-36, 07-243, 10-90, CC Docket Nos. 95-116, 01-92, 99-200, Notice of Proposed Rulemaking, Order, and Notice of Inquiry, FCC No. 13-51, at ¶¶ 53-54 (rel. April 18, 2013) (“*Direct Access Order*” or “NPRM”).

<sup>2</sup> *Direct Access Order*, at ¶ 88.

<sup>3</sup> *Direct Access Order*, at ¶ 87; Public Notice, DA 13-1210, *FCC Receives Proposals From Interconnected VoIP Providers to Participate in Numbering Trial for Direct Access to Telephone Numbers* (May 23, 2013).

<sup>4</sup> *Direct Access Order*, at ¶ 94 (emphasis added).

<sup>5</sup> *Direct Access Order*, at ¶ 2 (emphasis added).

innovative new technologies and services, [and] increase efficiency...”<sup>6</sup> The Commission seeks comment on alternative means to gain the benefits of direct access to numbering resources, including “moving to IP interconnection” to reduce costs “by allowing [a VoIP provider] to reduce its reliance on wholesale third-party networks.”<sup>7</sup> The Commission asks commenters to predict the “effect that direct access to numbers will have on the industry’s transition to direct interconnection in IP” and whether its numbering proposals will promote IP interconnection.<sup>8</sup>

The Commission’s efforts to increase efficiency and promote IP interconnection are well-intentioned but likely will fail unless the Commission simultaneously addresses the existing obligation of telecommunications carriers to interconnect on an IP-to-IP basis to ensure proper routing of traffic and to ensure, in the long-run, a seamless transition to an all-IP Interconnection environment.

The vast majority of VoIP customers subscribe to “managed” VoIP services today (not OTT VoIP services) and to access these customers directly a carrier or other service provider needs an interconnection agreement, especially with the largest ILECs that control the largest bases of end user customers. The Commission reported approximately 37 million interconnected VoIP subscriptions at the close of 2011,<sup>9</sup> “and U.S. Telecom estimates there to be a mere 3.5 million of OTT VoIP lines,”<sup>10</sup> which indicates about 10% of interconnected VoIP lines are from OTT providers. The majority of managed VoIP providers have CLEC affiliates or partners from whom they obtain access to numbers today. It is unclear how providing OTT VoIP providers

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<sup>6</sup> *Direct Access Order*, at ¶ 17.

<sup>7</sup> *Id.* (citing ¶ 14).

<sup>8</sup> *Id.*, at ¶¶ 52, 54.

<sup>9</sup> *Technology Transition Policy Task Force*, GN Docket No. 13-5, Comments of COMPTTEL, at 19 (July 8, 2013) (“COMPTTEL Comments”), *citing*, Local Telephone Competition, Status as of December 31, 2011, Industry Analysis and Technology Division, Wireline Competition Bureau, at 1 (January, 2013).

<sup>10</sup> COMPTTEL Comments, at 19, *citing*, USTELECOM, “Evidence of Voice Competition and ILEC Non-Dominance Mounts,” April 2, 2013, at 8.

with direct access to a relatively small amount of numbering resources will spur IP Interconnection, especially in light of the fact that the major ILECs steadfastly refuse to enter into agreements providing for IP Interconnection with CLECs, and other telecommunications carriers, let alone OTT VoIP providers whose rights to interconnection under the Act are less clear. Obtaining direct access to numbers without any assurance of obtaining an interconnection agreement with the major ILECs is not useful.<sup>11</sup> In order to produce any meaningful data on technical issues with VoIP interconnection and potential efficiency gains, the Commission must address direct IP Interconnection with ILECs.

As COMPTTEL noted, the “delay in the U.S. [in implementing IP Interconnection] is not the result of technical issues.”<sup>12</sup> “Rather, [as COMPTTEL demonstrates] it is the unwillingness of the largest incumbents, the RBOCs, to enter into agreements for VoIP interconnection in accordance with the mandates of the Act, despite the Commission’s stated expectation in 2011 [in the *USF/ICC Transformation Order*] that carriers would negotiate in good faith for IP interconnection of voice traffic.”<sup>13</sup> Stated simply, because the delay in achieving IP Interconnection and efficient IP routing is not technical in nature, it cannot be resolved by conducting technical trials such as the numbering trials in the *Direct Access Order* and the IP Interconnection trials proposed by the Technology Transitions Policy Task Force.<sup>14</sup> Unless the

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<sup>11</sup> See, e.g., COMPTTEL Comments, at 3 (Given that AT&T and Verizon “have far more voice subscribers than any other provider, the foundation of competition - interconnected networks that allow people to call each other regardless of each person’s provider - is jeopardized without nondiscriminatory interconnection with these carriers.”).

<sup>12</sup> COMPTTEL Comments, at 2 (July 8, 2013).

<sup>13</sup> COMPTTEL Comments, at 2; *Connect America Fund, Establishing Just and Reasonable Rates for Local Exchange Carriers, Developing an Unified Inter-carrier Compensation Regime, et al.*, WC Docket Nos. 10-90, 07-135, 05-337, 03-109, CC Docket Nos. 01-32, 96-45, GN Docket No. 09-51, WT Docket No. 10-208, Report and FNPRM, 26 FCC Rcd 17663, at ¶¶ 1009-1011 (Nov. 18, 2011) (“*USF/ICC Transformation Order*”), petitions for review pending sub nom. *In re: FCC 11-161*, No. 11-9900 (10th Cir. filed Dec. 8, 2011).

<sup>14</sup> *Technology Transitions Policy Task Force Seeks Comment on Potential Trials*, GN Docket No. 13-5, DA 13-1016, Public Notice, at 3 (rel. May 10, 2013) (“Public Notice”).

Commission confirms the right of carriers to IP Interconnection, the major ILECs will continue to refuse to interconnect on an IP basis and the OTT VoIP providers that obtain direct access to numbers will fail to obtain the interconnection agreements needed to make such access useful.

### **III. INCUMBENT CARRIERS ROUTINELY REFUSE TO INTERCONNECT ON AN IP TO IP BASIS WITH CERTIFICATED CLECS LET ALONE INTERCONNECTED OTT VOIP PROVIDERS**

The Commission noted in both 1996 and again in 2011 in the *USF/ICC Transformation Order* “that incumbent LECs have no economic incentive . . . to provide potential competitors with opportunities to interconnect.”<sup>15</sup> Consequently, the Commission concluded that “[n]egotiations between incumbent LECs and new entrants are not analogous to traditional commercial negotiations in which each party owns or controls something the other party desires.”<sup>16</sup> Industry experience with IP Interconnection negotiations over the past eighteen months since the *USF/ICC Transformation Order* was released confirms the Commission’s prior observations that ILECs have little incentive to negotiate in the absence of a regulatory backstop. Even in the face of the Commission’s statements in the *USF/ICC Transformation Order* that IP Interconnection is “critical” and that it expects carriers to negotiate IP Interconnection in “good faith,”<sup>17</sup> ILECs refuse to establish IP Interconnection with competitors even where their networks are IP-compatible. This ILEC intransigence not only forces competitive providers to establish more costly TDM interconnections and make unnecessary conversions from IP to

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<sup>15</sup> *USF/ICC Transformation Order*, at ¶ 1337 (quoting, Local Competition First Report and Order, 11 FCC Rcd. 15528, at ¶ 55).

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

<sup>17</sup> *USF/ICC Transformation Order*, at ¶ 1011 (“In particular, even while our FNPRM is pending, we expect all carriers to negotiate in good faith in response to requests for IP-to-IP interconnection for the exchange of voice traffic. The duty to negotiate in good faith has been a longstanding element of interconnection requirements under the Communications Act and *does not depend on the network technology underlying the interconnection*, whether TDM, IP or otherwise.”) (emphasis added).

TDM, it also reduces network reliability and often reduces voice quality.<sup>18</sup> The consensus in the industry is that “the primary obstacle to establishing VoIP interconnection agreements throughout the industry is the incumbent LEC’s unwillingness to negotiate any such agreements, *not* any technical or process issues related to VoIP interconnection.”<sup>19</sup> As the Technical Advisory Council has concluded, “deployment is technically feasible today but is largely being delayed due to commercial and policy considerations.”<sup>20</sup>

Service providers from a wide spectrum of the industry including CLECs, cable companies, wireless providers, and IP services providers have been denied IP Interconnection or stonewalled by the ILECs.<sup>21</sup> For example, AT&T refused Sprint’s request to amend its interconnection agreement to provide for the exchange of voice traffic in IP.<sup>22</sup> Sprint reports that the “problem competitive network operators face is that incumbents still serve most of the nation’s voice customers and *ILECs have refused to interconnect IP networks* to exchange voice calls – which, in turn, forces competitive IP network operators to continue use of inefficient and costly TDM interconnection.”<sup>23</sup> “The fact that Sprint has yet to obtain IP-to-IP interconnection for voice traffic from any of the major ILECs is evidence of [the ILEC’s] unwillingness to

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<sup>18</sup> See, e.g., COMPTTEL Comments, at 12-13 (“The result of this forced conversion is increased costs for unnecessary media gateways, and reduced voice quality for consumers because of the unnecessary protocol conversions.”); *In the Matter of Rural Call Completion*, WC Docket No. 13-39, Comments of HyperCube Telecom, LLC, at 6 (May 13, 2013) (“direct interconnection rights would improve the efficiency, rate, and quality of rural call completion.”).

<sup>19</sup> See, e.g., *Technology Transitions Policy Task Force*, GN Docket No. 13-5, Comments of CBeyond, EarthLink, Integra, Level 3, and TW Telecom, at 4, 12 (July 8, 2013); COMPTTEL Comments, at 2; *Technology Transitions Policy Task Force*, GN Docket No. 13-5, Comments of the American Cable Association, at 2 (July 8, 2012).

<sup>20</sup> FCC Technology Advisory Council, TAC Memo - VoIP Interconnection, at 2 (2012).

<sup>21</sup> COMPTTEL Comments, at 7 (“Verizon and AT&T have little to point to as the number of interconnection agreements they have entered into for VoIP Interconnection consists of only one *alleged* agreement of Verizon.” It appears Verizon may not even have even this one agreement. *Id.* at n.17.).

<sup>22</sup> COMPTTEL Comments, at 16.

<sup>23</sup> *In the Matter of AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition*, GN Docket No. 12-353, Comments of Sprint Nextel Corporation, at 28 (Jan. 28, 2013) (“Sprint Comments on AT&T Petition”) (emphasis added).

comply with their obligations under the Act.”<sup>24</sup> Sprint’s track record with the major ILECs is especially telling because Sprint is a relatively large carrier with a huge customer base and traffic volumes that has been able to establish IP interconnection agreements “with 12 major carriers” but no RBOC.<sup>25</sup>

Charter Communications, a cable company, likewise reported earlier this year that its “experience, in providing competitive VoIP service across 23 different states, is that *no ILECs have offered or permitted IP interconnection* under the Act, taking the position that no legal obligation to interconnect in IP exists.”<sup>26</sup> CBeyond, a CLEC, provided emails in Docket No. 12-353 demonstrating that AT&T refused its direct requests for IP Interconnection and that AT&T has no immediate plans to enter into “good faith” negotiations as required by the *USF/ICC Transformation Order*.<sup>27</sup> Specifically, AT&T’s email states that “there is no specific timeline to move from TDM to IP hand-off for exchange of traffic,” which AT&T asserts “may take a couple of years.”<sup>28</sup> IntelPeer, an IP services provider, reports that “[o]ver the course of the past eighteen months, IntelPeer has also struggled to find many RLECs capable or willing to connect via IP.”<sup>29</sup> IntelPeer observes that in its experience “[m]any RLECs seem reluctant to discard

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<sup>24</sup> *Technology Transitions Policy Task Force*, GN Docket No. 13-5, Comments of Sprint, at 7 (July 8, 2013) (“Sprint Comments”).

<sup>25</sup> Sprint Comments, at 6 (at 1, “Much of the telecommunications industry already exchanges voice traffic in IP format.”). *See, also, Technology Transitions Policy Task Force*, GN Docket No. 13-5, at 6 (July 8, 2013) (XO and other providers “have negotiated arrangements for interconnection between diverse networks in order to exchange managed IP traffic, including traffic that originates and/or terminates in both TDM and IP formats.”).

<sup>26</sup> *In the Matter of AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition*, GN Docket No. 12-353, Reply Comments of Charter Communications, Inc., at 4-5 (Feb. 25, 2013) (“Charter Reply Comments”) (emphasis added).

<sup>27</sup> *In the Matter of AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition*, GN Docket No. 12-353, Comments of CBeyond, EarthLink, *et al.*, at 13 and Declaration of Tony Insinga at ¶¶ 5-6 (Jan. 28, 2013) (“Comments of CBeyond”).

<sup>28</sup> Comments of CBeyond, Attachment 1 to Declaration of Tony Insinga, quoting AT&T email dated December 13, 2012.

<sup>29</sup> *In the Matter of Rural Call Completion*, WC Docket No. 13-39, Comments of IntelPeer, Inc., at 8 (May 13, 2013) (“IntelPeer Comments”).

business practices *permitting only connections in TDM in every wire center* throughout their rural market, and to forego the revenues from tariffed components, such as Tandem Switched Transport, Direct Trunk Transport, Entrance Facility, and Carrier Common Line Charges.”<sup>30</sup> Charter points out that the ILECs’ refusal to interconnect in IP reduces the incentive for all providers to upgrade their networks to IP so long as “interconnection with the ILEC will require them to convert their traffic to TDM in order to interconnect.”<sup>31</sup>

Charter is the “fourth largest cable company in the United States, serving approximately 5.3 million customers.”<sup>32</sup> Sprint asserts that it “services approximately 13 percent of all voice subscribers in the U.S.”<sup>33</sup> If ILECs do not have sufficient incentive to interconnect on reasonable terms with huge service providers such as Charter and Sprint on an IP to IP basis, it is highly unlikely they will establish IP interconnection with CLECs and other service providers that lack the size, traffic volumes, and bargaining power of these large companies. Based on this record, it is evident that unless the Commission establishes a regulatory backstop, incumbent LECs will continue to use their market power to refuse to interconnect with competing service providers in IP, potentially rendering the Commission’s *Direct Numbering Order* worthless despite the Commission’s best intentions.<sup>34</sup>

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<sup>30</sup> IntelPeer Comments, at 8 (emphasis added).

<sup>31</sup> Charter Reply Comments, at 4.

<sup>32</sup> Charter Reply Comments, at 2.

<sup>33</sup> Sprint Comments on AT&T Petition, at 29.

<sup>34</sup> See, e.g., *In the Matter of 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 et al.*, CC Docket No. 99-200 *et al.*, Comments of Terra Nova Telecom, Inc., at 1 (“it would seem that the assignment of numbering resources to IP-only carriers would not have any practical value because those numbers would not be reachable from a majority of the telephone numbers on the PSTN without interconnection.”).

#### IV. ALL CARRIERS HAVE A DUTY TO NEGOTIATE IP INTERCONNECTION IN GOOD FAITH AND A REGULATORY BACKSTOP IS NEEDED TO ENFORCE THIS DUTY

Spencer agrees with recent comments by Sean Lev, the Acting Director of the Commission's Technology Transitions Policy Task Force and acting FCC General Counsel, that "[w]e should *not assume* that an 'all-IP network' or any other technical change will necessarily bring robust competition."<sup>35</sup> As Mr. Lev explained and others industry participants have acknowledged, competitive "choices exist today because of massive private investment, and because of government policies that created and maintain the conditions necessary for competition to flourish, including rules to ensure interconnection."<sup>36</sup> As the Commission has consistently recognized, "[i]nterconnection among communications networks is critical given the role of network effect."<sup>37</sup> "Historically, interconnection among voice communications networks has enabled competition and the associated consumer benefits that brings through innovation and reduced prices."<sup>38</sup> The transition underway from TDM to IP protocol does not change these fundamental industry economic conditions.

Accordingly, the obligation of all service providers to negotiate IP interconnection in good faith is an important pre-condition for maintaining competition before, during the transition, and after the transition to IP networks and services. The Commission underscored these obligations in its recent *USF/ICC Transformation Order*, noting that "even while our

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<sup>35</sup> Sean Lev, Acting Director of the Technology Transitions Policy Task Force and FCC Acting General Counsel, Remarks at TIA Network Transition Event, at 3 (June 21, 2013) ("TIA Remarks") (emphasis added).

<sup>36</sup> TIA Remarks, at 2. See, e.g., COMPTTEL Comments, at 11 ("without the ability to exchange traffic with the local incumbent carrier, no competitor would be able to compete effectively.").

<sup>37</sup> *USF/ICC Transformation Order*, at ¶¶ 1009-1010; See, *Petition of CRC Communications of Maine, Inc. and Time Warner Cable, Inc. for Preemption Pursuant to Section 253 of the Act*, WC Docket No. 10-143, GN Docket No. 09-51, et al., 26 FCC Rcd. at 8259, ¶¶ at 12-13 (May 26, 2011) ("Further, as the 1996 Act recognized, without the ability to exchange telecommunications traffic with the local incumbent local carrier, no competitive provider would be able to compete effectively."); Local Competition Order, 11 FCC Rcd. At 14506, ¶ 4; National Broadband Plan, at 49.

<sup>38</sup> *USF/ICC Transformation Order*, at ¶ 1009.

FNPRM is pending, *we expect all carriers to negotiate in good faith* in response to requests for IP-to-IP interconnection for the exchange of voice traffic.”<sup>39</sup> The Commission concluded that the “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 technology underlying the interconnection, whether TDM, IP, or otherwise.*”<sup>40</sup> The Commission should reaffirm the duty to negotiate in good faith and these long-standing principles in this proceeding in light of the major ILEC’s refusals to negotiate IP Interconnection with competitors, and in addition should threaten enforcement action in response to service provider complaints.

Finally, the Commission should go at least one step further than it did in the *USF/ICC Transformation Order*. In light of the ILECs’ continued refusal to negotiate the terms of IP Interconnection, Spencer supports COMPTTEL’s proposal that the Commission “oversee a negotiation of a master interconnection agreement between competitors and an RBOC which, in accordance with the Act, could be submitted to the states for approval and available for other carriers to opt-into or use as a template for State negotiations under the Act.”<sup>41</sup>

#### **V. THE NECA TARIFF SHOULD BE UPDATED TO OFFER A FORM OF IP INTERCONNECTION THAT INCREASES THE EFFICIENCY OF NETWORK INTERCONNECTION**

The National Exchange Carrier Association, Inc. (“NECA”) tariffs offers a form of IP Interconnection, called “Internet Protocol Gateway Access Service (“IPG”).”<sup>42</sup> While NECA should be applauded for making a step toward IP interconnection where the RBOCs have refused to do so, the NECA tariff does not achieve the efficiencies possible with IP interconnection. The IPG service is essentially a traditional Feature Group D service with the sole benefit of an IP port

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<sup>39</sup> *USF/ICC Transformation Order*, at ¶ 1010 (emphasis added).

<sup>40</sup> *USF/ICC Transformation Order*, at ¶ 1010 (emphasis added).

<sup>41</sup> COMPTTEL Comments, at 18.

<sup>42</sup> National Exchange Carrier Association, Inc. (“NECA”), Tariff FCC No. 5, at § 16.4, pages 16-74 to 16-90.

option instead of a TDM port.<sup>43</sup> Moreover, the IPG service needlessly increases the costs of IP Interconnection and undermines most of the economic benefits of IP Interconnection by requiring an interconnecting carrier to interconnect at a point of interconnection in every serving wire center in which the ILEC has an IP gateway and tandem switch.<sup>44</sup> In addition, “IPG Transport is required to provide the connection between the [Customer Designated Premise] and the Telephone Company IPG SWC.”<sup>45</sup> Thus, the IPG service appears to require a connecting carrier to lease DS1 or DS3 dedicated transport, with the only changed feature being that the dedicated facility uses an IP communications protocol rather than TDM.

While it has been estimated that “VoIP interconnection can immediately and dramatically reduce service provider capital and operating costs, by as much as 90%,”<sup>46</sup> these savings cannot be realized if competitors are forced to mimic the legacy ILEC network architecture and if VoIP interconnection cannot be used to reach all of the major ILEC’s customers. Much of the projected costs savings from the use of IP Interconnection are dependent upon the reduction of interconnection ports and the number of Points of Interconnection (“POIs”), with the reduction of POIs estimated to be “as high as 30:1 for a national provider.”<sup>47</sup> These cost reductions cannot be realized if interconnecting carriers are forced to mimic the ILEC architecture as with the IPG service.

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<sup>43</sup> NECA, Tariff FCC No. 5, at § 16.4.2, 2nd revised page 16-74, (“IPG can *only be used* in conjunction with FGD Switched Access Service, which is ordered separately by the IPG customer.”) (emphasis added).

<sup>44</sup> NECA Tariff FCC No. 5, at § 16.4.1, 2nd revised page 16-74 (“IPG is only available to connect the customer’s designated presences (CDP) to a Telephone Company provided IP gateway serving wire center (IPG SWC) when both the CDP and IPG SWC are located in the Telephone Company’s serving territory.”).

<sup>45</sup> NECA Tariff FCC No. 5, at § 16.4.2, 1st revised page 16-74.1.

<sup>46</sup> COMPTTEL Comments, at 22, and Attachment B, at 3. *See, Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, Framework for Next Generation 911 Deployment*, PS Docket Nos. 11-153, 10-255, Comments of COMPTTEL at Attachment, “IP INTERCONNECTION FOR MANAGED VOIP” April, 2011, at 21-22 (filed Dec. 12, 2011) (“COMPTTEL Interconnection Cost Analysis”).

<sup>47</sup> COMPTTEL Interconnection Cost Analysis, at 21-22.

COMPTEL's recent cost study estimates that "[w]hereas IP-to-TDM interconnection requires three trunk groups per interconnected switch, IP Interconnection could be achieved with as few as three POIs to serve the entire domestic U.S."<sup>48</sup> The Commission and industry experts have recognized that all-IP networks and IP interconnection are potentially more reliable, scalable, efficient and cost-effective than legacy TDM networks and TDM interconnection.<sup>49</sup> Industry experts anticipate that IP-to-IP interconnection "will provide a significant reduction in the number of interconnection ports and facilities required to comprise ubiquitous interconnection," and also "will reduce the operational complexity and cost of network support."<sup>50</sup> Likewise, the Commission "has highlighted the tremendous benefits, efficiencies, and increased reliability and redundancy that interconnection using Internet protocols has over the traditional TDM framework."<sup>51</sup> Although the inherent advantages of IP-to-IP interconnection could improve the cost efficiency of interconnection over TDM interconnection as projected by the Commission and industry experts, widespread adoption of IP interconnection is unlikely unless and until the Commission sets out the ground rules that will govern IP-to-IP interconnection. As discussed above, most ILECs adamantly refuse to permit competitors to connect via IP Interconnection with their networks and NECA's current tariff insists on too many points of interconnection, too many IP ports, and unnecessary dedicated transport. In addition to overseeing negotiation of a template IP interconnection agreement for the major RBOCs, the Commission should direct NECA to update its tariff to offer a form of IP Interconnection that

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<sup>48</sup> COMPTEL Interconnection Cost Analysis, at 22.

<sup>49</sup> *USF/ICC Transformation Order*, at ¶ 892 (Nov. 18, 2011) ("IP-based softswitches . . . are significantly less costly and more efficient than the TDM-based switches they replace.").

<sup>50</sup> David J. Malfara, ETC Group, LLC, *Interconnecting Next Generation Service Providers*, at 21-22 (April 11, 2011).

<sup>51</sup> Public Notice, at 3-4.

increases the efficiency of network interconnection without mimicking serving areas of historical TDM networks.

**VI. THE CALIFORNIA PUC'S PROPOSALS SHOULD BE ADOPTED AND THE COMMISSION SHOULD AFFIRM THE OBLIGATION OF CARRIERS TO COMPLETE CALLS FROM RLEC CUSTOMERS TO CUSTOMERS OF RURAL CLECS**

The Commission requests comment on the California Public Utilities Commission's ("CPUC") proposal under which "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 rate center for numbering administration purposes."<sup>52</sup> Spencer supports the CPUC's proposal, so long as it is optional. Some customers may object to having telephone numbers that are not associated with their geographic area. If the CPUC proposal became mandatory, the Commission would impose on VoIP providers an unfair regulatory disadvantage in competing for such customers' business.

As the CPUC explained in its comments, adoption of its proposal "would make the VoIP provider's rate center irrelevant and allow the utilization of the hundreds of thousands of numbers that are stranded in rate centers where they will never be, or unlikely to be, assigned."<sup>53</sup> In addition to these advantages, adopting the CPUC's proposal would simplify applications for numbering resources (applicants would not have to show facilities readiness in multiple geographic areas) and intercarrier compensation. For those VoIP providers electing the nationwide area code overlay, the percent VoIP traffic would be readily apparent based on the special area code.

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<sup>52</sup> NPRM, at ¶ 28; *In the Matter of Petitions for Waiver of Commission's Rules Regarding Access to Numbering Resources*, CC Docket No. 99-200, Comments of the CPUC, at 8, 10 (Jan. 25, 2012) ("CPUC Comments").

<sup>53</sup> CPUC Comments, at 5, 8, 10 (describing egregious stranding of numbers by AT&T-IS, formerly SBC Internet Services).

While adopting the CPUC's proposal would serve the useful purpose of ending the association of numbers provided to interconnected VoIP providers with specific geographic areas thereby addressing numbering exhaust issues, related rural call completion issues must also be addressed. Today CLECs have direct access to numbers, however, they may not be able to use these numbers because there is no standard interconnection agreement with small or exempt rural carriers that requires them to interconnect with CLECs, let alone interconnected VoIP providers who obtain direct access to numbers. Many small rural LECs will not route traffic to CLECs that are assigned local numbers in rate centers that share local calling areas with the respective RLEC, unless such CLECs also have a direct interconnection agreement with the RLEC (which RLECs often refuse to negotiate), even though these CLECs have demonstrated facilities readiness and that they are authorized to provide service in the area for which they have obtained numbering resources in the first instance.<sup>54</sup> Also as a practical matter, even if small RLECs were willing to negotiate direct interconnection agreement, which few are, no carrier has the resources to negotiate an interconnection agreement with each of the thousands of RLECs in the country, nor should this be required in an era where IP technology permits interconnection with relatively a few POIs nationwide.

The refusal of small RLECs to complete calls from RLEC customers to customers of CLECs in rural areas is as much a rural call completion issue as the completion of calls inbound to RLEC customers.<sup>55</sup> All calls should be completed regardless of intercarrier compensation

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<sup>54</sup> 47 C.F.R. § 52.15(g).

<sup>55</sup> *In the Matter of Rural Call Completion*, WC Docket No. 13-39, FCC 13-18, Notice of Proposed Rulemaking, ¶¶ 10, 19 (rel. Feb. 7, 2013) (“Rural Call Completion NPRM”); *In the Matter of Developing a Unified Intercarrier Compensation Regime, Establishing Just and Reasonable Rates for Local Exchange Carriers*, CC Docket No. 01-92, WC Docket No. 07-135, Declaratory Ruling, DA 12-154 at ¶¶ 11-12 (Feb. 6, 2012) (“*Declaratory Ruling on Call Blocking*”) (an originating “carrier that knows or should know that calls are not being completed to certain areas, and that engages in acts (or omissions) that allow or effectively allow these conditions to persist, may be liable for a violation of section 201 of the Act,” or may violate the duty the section 202 duty to refrain from unjust or unreasonable discrimination in practices or services).

disputes (if any), and the Commission's present rules require no less.<sup>56</sup> The Commission's *Declaratory Ruling on Call Blocking* and any new rules addressing rural call completion should apply and be enforced regardless as to whether the called number is associated with a CLEC or is a direct numbering resource assigned to an OTT VoIP provider.

## VII. CONCLUSION

Permitting OTT VoIP providers to obtain direct access to numbering resources without any assurance of obtaining an IP interconnection agreement with the major ILECs is not likely to provide the Commission useful data. Due to the network effect, all providers must be able to reach the managed VoIP and TDM end users of the ILECs. Without a regulatory backstop to ensure IP interconnection is realized, such as Commission-supervised template IP interconnection agreements for each RBOC and an updated NECA tariffed IP interconnection offering, granting OTT VoIP providers direct access to numbers is unlikely to realize more efficient, direct IP interconnections between VoIP providers and ILECs.<sup>57</sup> The Commission should reaffirm the duty to negotiate IP Interconnection in good faith in light of the major ILECs' refusals to negotiate IP Interconnection with competitors, and in addition should threaten enforcement action in response to service provider complaints. Finally, in light of the ILECs' continued refusal to negotiate the terms of IP Interconnection, Spencer supports COMPTTEL's proposal that the Commission oversee a negotiation of a master interconnection agreement between competitors and RBOCs which could be submitted to the states for approval and

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<sup>56</sup> Rural Call Completion NPRM, at ¶ 10; *Declaratory Ruling on Call Blocking*, at 11.

<sup>57</sup> See, e.g., COMPTTEL Comments, at 3 (July 8, 2013) (Given that AT&T and Verizon "have far more voice subscribers than any other provider, the foundation of competition - interconnected networks that allow people to call each other regardless of each person's provider - is jeopardized without nondiscriminatory interconnection with these carriers.").

