

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

|   |   |                      |
|---|---|----------------------|
| In the Matter of  | ) |                      |
|   | ) |                      |
| Connect America Fund  | ) | WC Docket No. 10-90  |
|   | ) |                      |
| A National Broadband Plan for Our Future                              | ) | GN Docket No. 09-51  |
|   | ) |                      |
| Establishing Just and Reasonable Rates for<br>Local Exchange Carriers | ) | WC Docket No. 07-135 |
|   | ) |                      |
| High-Cost Universal Service Support                                   | ) | WC Docket No. 05-337 |
|   | ) |                      |
| Developing a Unified Intercarrier<br>Compensation Regime              | ) | CC Docket No. 01-92  |
|   | ) |                      |
| Federal-State Joint Board on Universal<br>Service                     | ) | CC Docket No. 96-45  |
|   | ) |                      |
| Lifeline and Link-Up  | ) | WC Docket No. 03-109 |

**REPLY COMMENTS OF BANDWIDTH.COM, INC.**

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March 30, 2012

**Table of Contents**

I. INTRODUCTION ..... 1

II. COMMENTS..... 2

    A. The Realization of the Benefits of IP Networks Requires Incentives to Innovate and Protections from Risks of Unwarranted Exercise of Market Power. .... 2

    B. To Promote the Deployment of IP Networks, the Commission Must Reject IP Interconnection Proposals that Cling to PSTN-Based Concepts. .... 7

    C. A Full Transition to IP Networks Will Require More Aggressive Reform of Originating Access Rates..... 13

    D. A Default IP Interconnection Option or Minimum Set of Standards is Essential to Promote Competition and Ensure Equitable Treatment of VoIP Services..... 14

III. CONCLUSION ..... 15

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**REPLY COMMENTS OF BANDWIDTH.COM, INC.**

**I. INTRODUCTION**

As the comments in this proceeding demonstrate, many industry members continue to ask the Federal Communications Commission (“Commission”) to inexorably slow down the inevitable transition to Internet protocol (“IP”) networks. With the result being nothing more than a continued monetization of their obsolete time division multiplexing (“TDM”) based business – obsolescence which is roundly conceded by all concerned. Such requests, however, ignore entirely the investments of those carriers that fully embrace IP technologies as well as state-of-the-art innovations in the broader communications industry. The Commission should pay no mind to arguments which result in a paradigm for transition to IP interconnection on a

convenient timetable for those that have either failed to recognize the obvious paradigm shift to IP or who seek, for inward economic reasons, to ultimately control the pace at which the goals of the National Broadband Plan<sup>1</sup> can be fully realized. Providers should certainly be free to negotiate IP-based interconnection and intercarrier compensation terms that account for the unique priorities of contracting parties. However, rather than risking delay in the deployment of IP interconnection and network policies in the hands of providers who could wield market forces in a fashion to slow the pace of innovation, the Commission should establish minimum default provisions to apply if market-based efforts otherwise fail. Bandwidth.com, Inc. (“Bandwidth”) commends the Commission for its foresight and encourages the Commission to aggressively implement the proper incentives to the industry to spur the broadband future forward.

## II. COMMENTS

### A. The Realization of the Benefits of IP Networks Requires Incentives to Innovate and Protections from Risks of Unwarranted Exercise of Market Power.

Beginning with the goals announced in The National Broadband Plan, the Commission has recognized that broadband IP networks reduce costs, provide efficiencies, promote innovation and benefit consumers.<sup>2</sup> Today, it is difficult to find any dissent with these fundamental truths. Not surprisingly then, “[t]he transition away from the PSTN is already

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<sup>1</sup> Federal Communications Commission, *Connecting America: The National Broadband Plan* (rel. Mar. 16, 2010) (“National Broadband Plan”).

<sup>2</sup> *In the Matter of 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; Universal Service Reform - Mobility Fund*, Report and Order and Further Notice of Proposed Rulemaking, WC Docket Nos. 10-90, 07-135, 05-337, 03-109, CC Docket Nos. 01-92, 96-45, GN Docket No. 09-51, WT Docket No. 10-208, 26 FCC Rcd 17663, ¶¶ 648, 655 (2011) (“*USF/ICC Reform Order and FNPRM*”).

occurring, and is likely to accelerate.”<sup>3</sup> However, the Commission must continue to provide proper oversight and incentives to ensure the promises of IP networks become a reality sooner rather than later.

The Commission should therefore be mindful of the implications posed by those advocating “long term” goals of enabling IP networks and IP interconnection.<sup>4</sup> Of course, while the goal is most assuredly correct, the difference in timing for achieving and unlocking the clear benefits of IP is the difference between aggressive innovation through a diverse marketplace or, alternatively, the risk of a glacially moving, consolidated industry that is not properly incentivized to innovate and be responsive to consumers already clamoring for a universal IP enabled experience. The timing thus *is the critical difference*. And, this difference will set the trajectory of the communications industry for the foreseeable future. As Bandwidth pointed out in its opening comments, it would be a mistake to allow anyone, for whatever reasons, to exercise market power to govern the pace at which end-users will be allowed to reap the benefits of IP networks. Rather, there is an opportunity to provide the proper incentives to embrace change more quickly. As Google notes, proposals to allow parties to negotiate appropriate interconnection terms must be buttressed by Commission oversight.<sup>5</sup> Otherwise carriers would be allowed to hide behind the difficulty of clearly demonstrating bad faith while the industry would have no choice but to wait for “eventual commercial resolutions” of key questions to

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<sup>3</sup> *FCC Workshops on the Telephone Network in Transition*, Public Notice, 26 FCC Rcd 16354, at 1 (2011).

<sup>4</sup> *See, e.g.*, Comments of AT&T, WC Docket No. 10-90, *et al.*, at 1, 9 (“in the long run”), 33 (“over the long term”) (filed Feb. 24, 2012) (“AT&T Comments”); Comments of Verizon, WC Docket No. 10-90, *et al.*, Declaration of Ihab S. Tarazi, at ¶ 2 (Verizon is working on solutions that will “eventually facilitate” transition to IP networks); Comments of Frontier Communications Corporation, WC Docket No. 10-90, *et al.*, at 11 (filed Feb. 24, 2012) (converting to IP networks will take some time) (“Frontier Comments”); Comments of CenturyLink, WC Docket No. 10-90, at 36 (filed Feb. 24, 2012) (“CenturyLink Comments”) (“[i]n the long run”).

<sup>5</sup> Comments of Google Inc., WC Docket No. 10-90, at 6 (filed Feb. 4, 2012) (“Google Comments”).

occur at a pace set by those with leverage. Thus, the Commission should not wait idly for IP-IP interconnection to occur only after carriers determine they have maximized their TDM revenues to such degree that they will then begin to invest in IP.

Here, precedent is instructive as the industry has witnessed before how outsized negotiating leverage can foil the public interest. Indeed, the Commission wisely rejected similar arguments when considering interconnection requirements under the 1996 Act, finding that “incumbent LECs have no economic incentive . . . to provide potential competitors with opportunities to interconnect with and make use of the incumbent LEC’s network.”<sup>6</sup> Rather, “[i]ncumbent LECs have strong incentives to resist such [interconnection] obligations.”<sup>7</sup> While technologies and services may have changed, the ability of and incentive for some providers to exercise market power to the detriment of their competitors remains.<sup>8</sup> The Commission’s role then is to establish stronger incentives for all carriers to speed up the transition to IP.

Virtually all opening comments extolled the operational and consumer benefits of IP networks. Touching on the inevitability of the shift, Verizon states that its research indicates that IP-originated traffic will increase five-fold by 2015 and notes that this type of growth will facilitate network restructuring industry wide.<sup>9</sup> While Bandwidth has no reason to disagree, the Commission’s primary concern should be on precisely how the restructuring itself occurs.

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<sup>6</sup> *Local Competition Order*, 11 FCC Rcd 15499, 15528, ¶ 55 (1996).

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

<sup>8</sup> Comments of Time Warner Cable Inc., WC Docket No. 10-90, *et al.*, at 12 (filed Feb. 24, 2012) (“Time Warner Comments”) (“the public policy concerns underlying ILECs’ interconnection obligations under Section 251 – their control of ubiquitous telecommunications networks and ability to exercise market power – are not affected by the technology used to exchange voice traffic.”); Comments of the Ad Hoc Telecommunications Users Committee, WC Docket No. 10-90, at 8 (filed Feb. 24, 2012) (“Ad Hoc Group Comments”). As Sprint notes, the eight major ILECs in existence in 1996 are now down to only three and the two largest of these have increased their market power and extended it to far more markets. Comments of Sprint Nextel Corporation, WC Docket No. 10-90, *et al.*, at 11 (filed Feb. 24, 2012) (“Sprint Comments”).

<sup>9</sup> Verizon Comments at 19.

Competition spurs innovation, and innovation thrives in a free-market environment. Thus, competition must be encouraged and protected but not in an overly burdensome manner.<sup>10</sup> There are both market-based incentives as well as regulatory levers that the Commission can deploy, but what the Commission cannot do is leave innovation entirely up to the market and trust that industry will make the transition on its own.<sup>11</sup> Common sense, confirmed by history demonstrates that this approach is unlikely to yield disruptive technological breakthroughs which serve the public interest.

The inevitable growth in IP-originated traffic should not occur in a manner whereby carriers can be incited by the remnants of the ICC regime to establish unregulated IP interconnection to achieve cost-benefits for their own IP-originated traffic, while simultaneously denying IP interconnection to other providers.<sup>12</sup> Thus, Bandwidth cannot agree with AT&T that waiting until 2018 to sunset the public switched telephone network (“PSTN”) is “expeditious.”<sup>13</sup> Especially when doing so is linked to a period which the Commission itself characterizes as *gradually* moving from the existing regimes.<sup>14</sup> Clearly, the Commission must provide more explicit direction to move at a faster pace in order to achieve the goals of the National Broadband Plan as soon as possible.

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<sup>10</sup> Google Comments at 6; Comments of Windstream Communications, Inc. on Sections XVII.L-R, WC Docket No. 10-90, *et al.*, at 14-15 (filed Feb. 24, 2012) (“Windstream Comments”); Comments of Charter Communications, Inc., WC Docket No. 10-90, *et al.*, at 14 (filed Feb. 24, 2012) (“Charter Comments”); Sprint Comments at 12.

<sup>11</sup> Sprint Comments at 10-12; Comments of XO Communications, LLC on Sections XVII.L-4 of the Further Notice of Proposed Rulemaking, WC Docket No. 10-90, *et al.* at 10 (filed Feb. 24, 2012) (“XO Comments”).

<sup>12</sup> Sprint Comments at 9-10; Charter Communications Comments at 14; Time Warner Cable Comments at 10-12; Google Comments at 15-16.

<sup>13</sup> AT&T Comments at 48-51. Notably, while Bandwidth does not contest that at some point in the future, the PSTN will cease to exist in all but very limited circumstances, Bandwidth objects to any suggestion that IP interconnection obligations should be put off to a future date.

<sup>14</sup> *USF/ICC Reform Order and FNPRM*, at ¶ 802.

Unlike other situations in which the Commission concluded that a transition period is necessary to provide sufficient time for industry to implement changes, in this case, the industry is already aggressively transitioning to IP to achieve the benefits it can provide.<sup>15</sup> Thus, arguments for the delay in implementing IP interconnection are not founded in sound policy and indeed, could well run crosswise of well-founded policy that points to transitioning to IP now.<sup>16</sup> Indeed, here AT&T's proposed PSTN sunset date matches the final transition of terminating intercarrier compensation ("ICC") to bill and keep.<sup>17</sup> While certainly rational from its own internal vantage point, it does not follow that industry-wide policy should be aligned to the moment it will no longer be able to derive TDM-based ICC.<sup>18</sup>

While there is evidence that an increasing number of companies are moving to IP networks, there is little in the record to show that the increased deployment of IP networks is resulting in an increase in IP interconnection. A result which Bandwidth would certainly applaud if such were the case. Thus, claims that "a growing number of IP networks have likewise negotiated interconnection agreements for the efficient exchange of 'managed' real-time services that include a voice presence"<sup>19</sup> are problematic when the record is unsupported – thus far – especially when used as a basis to conclude the market is open and there are no barriers to

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<sup>15</sup> Verizon Comments at 12-14, 19 (Verizon projects five-fold increase in its IP-originated traffic). *See also* Comments of AT&T, WC Docket No. 10-90, at 8 (filed April 8, 2011) (stating that "a revolutionary transition from the circuit-switched networks of the past to the all-IP architecture of the future . . . is well underway."); XO Comments at 9; Comments of Comcast Corporation, WC Docket No. 10-90, *et al.*, at 19 (filed Feb. 24, 2012) ("Comcast Comments").

<sup>16</sup> Sprint Comments at 10. *See also* Time Warner Cable Comments at 11.

<sup>17</sup> *USF/ICC Reform Order and FNPRM*, ¶ 801, Figure 9.

<sup>18</sup> Significantly, AT&T would expand the deregulatory approach to encompass all of its currently regulated operations, suggesting the Commission "should allow Title II common carrier obligations to sunset as the PSTN sunsets." AT&T Comments at 17. *See also*, AT&T Comments at 39 ("once an *existing* 'ILEC' (or the affiliate of such an ILEC) stops offering 'LEC' services within a given area, it will no longer be an 'ILEC' subject to section 251(c)(2).")

<sup>19</sup> AT&T Comments at 10.

entry.<sup>20</sup> Because commercial negotiations with TDM-based incumbents has not yet proven to demonstrate a speedy transition to IP networks and IP-only interconnection, the Commission should at least establish baseline standards to guide the process and ensure an equitable balance of rights and obligations between parties.<sup>21</sup>

**B. To Promote the Deployment of IP Networks, the Commission Must Reject IP Interconnection Proposals that Cling to PSTN-Based Concepts.**

The incentives to maintain existing TDM/PSTN infrastructure where it generates revenue from competitors, while transitioning quickly to IP where it will reduce costs are basic self-interested economic decisions. However, the problem with allowing such behavior to occur unchecked is that the actors making these decisions now possess extraordinary market power. The Commission cannot leave IP-IP interconnection at the mercy of the market when all of the participants do not have equal bargaining power. Predictably, some carriers seek to mandate PSTN interconnection where there are attractive revenue opportunities yet move to IP-IP on traffic routes where they can achieve net cost savings. As the Ad Hoc Telecommunications Users Group has identified, the cable companies will be well positioned to demand the most favorable interconnection terms possible – even if such terms are to the detriment of the rest of the competitive industry. Such a scenario could not be described as a regulatory regime so much as a market wide open for the taking by those with the negotiating leverage to do so. Courts, the Commission, and economists have recognized that a duopoly is little better than a monopoly at constraining market power.<sup>22</sup> And, where any duopolist would have the capability

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<sup>20</sup> Sprint Comments at 12.

<sup>21</sup> Google Comments at 6; Comments of T-Mobile USA, Inc., WC Docket No. 10-90, *et al.*, at 6 (filed Feb. 24, 2012); Windstream Comments at 14-15.

<sup>22</sup> Ad Hoc Group Comments, at 7 (quoting *Petition of Qwest Corp. for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Phoenix, Arizona Metropolitan Statistical Area*, Memorandum Opinion and Order, 25 FCC Rcd 8622, 8635-36 (2010)).

to control broadband connections to end users, added incentive to dictate interconnection terms is self-evident.<sup>23</sup>

Fundamentally, the network “edge” concept is based upon historic PSTN-centric opportunities to capture outsized returns from a captive market.<sup>24</sup> But such a network “edge” paradigm may not even be relevant in an all IP world.<sup>25</sup> Yet, in describing the “edge” concept, AT&T - after stating any “coherent” interconnection policy includes the “edge” paradigm<sup>26</sup> - argues it should still collect charges for “use” of its PSTN facilities even if such “use” is due to its non-transition to IP technology. AT&T further argues that the “edge” can never be the point at which two carriers are actually interconnected,<sup>27</sup> but rather at additional points at which the parties exchange IP traffic. Thus, one could readily surmise that AT&T is simply preserving wholly obsolete cost recovery mechanisms<sup>28</sup> which are tied to the location within the network where traffic is terminated, *e.g.*, tandem, end office, etc.

Unfortunately, such outmoded PSTN concepts will hardly spur deployment of IP networks. Rather, in effect they serve to further penalize those that deploy IP networks while rewarding those that cling to the PSTN. As is universally known, in an IP network, the switches that separate calls into local, tandem, and interexchange segments can be eliminated, and the concepts of end office or tandem interconnection do not exist.<sup>29</sup> Therefore, any rules implementing an “edge” concept cannot rely upon the continued use of obsolete, circuit-switched

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<sup>23</sup> See AT&T Comments at 34-46; Comcast Comments at 19-23; Verizon Comments at 19-23. AT&T downplays this risk by claiming that broadband ISPs cannot force other IP networks to interconnect. AT&T Comments at 32. This statement might be true of a small broadband ISP, but a company that controls access to millions of end users has the ability – should it choose to do so - to provide or limit that access without restraint, unless regulatory mechanisms are in place to establish the terms.

<sup>24</sup> AT&T Comments at 67-71.

<sup>25</sup> Charter Comments at 14 fn. 47.

<sup>26</sup> AT&T Comments at 6, 52, 54-55, 69.

<sup>27</sup> AT&T Comments at 69-70.

<sup>28</sup> AT&T Comments at 70.

<sup>29</sup> Verizon Comments at 15.

network architecture, but must instead recognize and accommodate the use of soft switches and distributed switching architecture in IP networks.<sup>30</sup> Notably, elsewhere, even AT&T appears to concede the point when it correctly points out that “what the Commission does with originating access charges is less important than recognizing that the distinction between ‘local’ and ‘long distance’ services is a vestige of an obsolescent regulatory structure that should be abandoned.”<sup>31</sup>

CenturyLink’s proposed interconnection amendment to implement the *USF/ICC Reform and Order and FNPRM* also demonstrates that, if left to their own devices, some carriers are inclined to stay with outdated concepts, even if they do not work, rather than taking an opportunity to move forward. As established in the opening comments, from at least as far back as the Commission’s *Vonage Order*,<sup>32</sup> there has been general agreement that IP technology fundamentally undermines traditional assumptions about a telephone number reliably representing a particular geographic location. Yet, CenturyLink mandates a definition of “Local VoIP” and “Toll VoIP” traffic that is dependent upon an end-user’s physical location<sup>33</sup> even while acknowledging in the very same document that such a determination may actually be impossible.<sup>34</sup> Rather than acknowledging the non-geographic nature of IP technologies, CenturyLink defines Toll VoIP as traffic that “*physically originates and terminates* in different

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<sup>30</sup> Charter Comments at 14. Indeed, as Charter suggests, the very notion of a network “edge” may not be appropriate when considering options for IP interconnection given the geographic reach of modern networks and the near zero and declining costs of transport. *Id.*

<sup>31</sup> AT&T Comments at 72.

<sup>32</sup> *Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, WC Docket No. 03-211, Memorandum Opinion and Order, 19 FCC Rcd 22404 (2004).

<sup>33</sup> Local VoIP Traffic is VoIP traffic “that *physically originates and terminates* within the Local Calling Area as determined by the [applicable state commission.]” (emphasis added). ICC VoIP Amendment to the Interconnection Agreement between Qwest Corporation dba CenturyLink QC and [insert CLEC name], Section 4.0 (“CenturyLink ICA Amendment”).

<sup>34</sup> See CenturyLink ICA Amendment, Section 7.3.9 (“the Parties acknowledge that there may be some circumstances where the actual geographic end points of a particular call may be difficult or impossible to determine”). An example of this amendment is available here <http://www.psc.nd.gov/database/documents/12-0113/001-010.pdf>.

Local Calling Areas...” (emphasis added).<sup>35</sup> CenturyLink’s reluctance to abandon a requirement that long ago became meaningless and is also entirely inconsistent with its own language, is a powerful demonstration of the inability of incumbents to change interconnection policies on their own. The industry should be moving toward IP interconnection with fewer connections, not working to lock up PSTN interconnection in every local calling area when it is not cost effective or technically necessary to do so.<sup>36</sup>

For these reasons, Bandwidth supports the proposals offered by other parties to limit the number of IP interconnections necessary to exchange IP traffic between parties.<sup>37</sup> As the Commission noted in initiating this rulemaking, it makes “little sense for providers to maintain different interconnection arrangements for the exchange of VoIP and other forms of Internet traffic.”<sup>38</sup> Yet, unfortunately, this is exactly what some of the proposals before the Commission would do by requiring IP providers to establish new or additional interconnection arrangements to exchange IP traffic. Sprint, on the other hand, suggests the Commission require that points of interconnection for the exchange of VoIP traffic be presumptively located at the same places where IP network operators currently exchange non-voice IP traffic.<sup>39</sup> Similarly, requiring service providers to establish no more than one point of interconnection in each state in which they will exchange IP traffic is a much more appropriate starting point for IP networks given

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<sup>35</sup> CenturyLink ICA Amendment, Section 4.0.

<sup>36</sup> See Verizon Comments at 15 (“In an IP network, there is no need for a dedicated physical connection to carry a call all the way to the terminating party, and the switches that separate calls into local, tandem, and interexchange segments can be eliminated.”); *USF/ICC Reform Order and FNPRM*, at ¶¶ 1310, 1316.

<sup>37</sup> Sprint Comments at 16-22. See also Sprint and T-Mobile *Ex Parte Notice*, CC Docket No. 01-92 (filed Jan. 21, 2011).

<sup>38</sup> *Connect America Fund, et al.* Report and Order and Further Notice of Proposed Rulemaking, WC Docket Nos. 10-90, *et al.*, 26 FCC Rcd 4554, 4773 ¶ 467 (2011).

<sup>39</sup> Sprint Comments at 16-17.

their geographic scope and the declining cost of transport.<sup>40</sup> Many carriers already exchange traffic at a single point within the state. As Sprint notes, the incremental cost of carrying voice over existing IP networks is “vanishingly small.”<sup>41</sup> This approach is also much more efficient than proposals to require the creation of multiple, new interconnection arrangements based on architectures that are irrelevant on an IP network.

However, as Google, Sprint, Comcast and others suggest,<sup>42</sup> there is no reason to limit VoIP interconnection options to existing IP interconnections. Just as PSTN-centric terms like local calling area, end office, or tandem will be irrelevant in an IP network, so too are state, LATA or MSA boundaries. If a single IP interconnection point can efficiently serve a population that exceeds the size of a LATA, an MSA or even multiple states, it would be inefficient to limit the use of that IP interconnection to a much narrower, arbitrarily-selected area. Many IP providers exchange traffic with other IP providers today at only a few points throughout the county<sup>43</sup> and, these arrangements are considered to be very efficient. As more voice services transition to IP and the prevalence of IP networks increases, it makes sense from a policy, network efficiency and cost standpoint to exchange VoIP traffic in a similar manner, rather than constructing arbitrary interconnection policies designed only to prolong the inefficiencies of the PSTN. Bandwidth agrees with other commenters that without the opportunity to charge circuit-switching-related costs to originating carriers, terminating carriers

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<sup>40</sup> Sprint/T-Mobile *Ex Parte Notice*, at 2; Comcast Comments at 23; Charter Comments at 14; Google Comments at 15-16.

<sup>41</sup> Sprint Comments at 20.

<sup>42</sup> Google Comments at 6; Sprint Comments at 21-22; T-Mobile Comments at 3-7; Comcast Corporation Comments at 23-24; Windstream Comments at 13.

<sup>43</sup> T-Mobile Comments at 5. *See also* Verizon Comments at 23.

will have a strong incentive to transport calls within their own networks in the most efficient manner possible, thereby reducing costs for themselves, their competitors and consumers.<sup>44</sup>

IP interconnection standards should not be tied exclusively to traffic volume or traffic balance as some parties suggest. The Commission has recognized and the record amply demonstrates that IP networks are vastly more efficient than TDM networks. Establishing IP interconnection can include a myriad of considerations, which may include traffic volume and balance but do not have to depend upon only those points. A bilateral interconnection arrangement between two VoIP providers requires, at a minimum, a physical interconnection, an IP interface, call signaling and set up.<sup>45</sup> The amount of capacity per interconnection is something the parties can negotiate based upon their individual needs, but it is not a mandatory consideration.<sup>46</sup> On the other hand, a requirement that parties interconnect at a minimum of three interconnection points within the United States and bandwidth of at least 10 Gbps at each point is a standard that even a relatively large IP network operator would not be able to meet if it is required to establish similar arrangements with multiple affiliates.<sup>47</sup> Some parties propose the Commission adopt a traffic threshold for IP interconnection. For example, CenturyLink suggests the Commission require direct interconnection at an end office when the amount of traffic to that end office exceeds a DS1 worth of traffic.<sup>48</sup> This concept is yet another effort to force IP

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<sup>44</sup> Charter Comments at 14; Comments of U.S. Telepacific Corp. and Mpower Communications Corp., WC Docket No. 10-90, *et al.*, at 11-12 (filed Feb. 24, 2012); Sprint Comments at 21-22; Time Warner Comments at 10-11.

<sup>45</sup> Verizon Comments at 23.

<sup>46</sup> Verizon Comments at 23-24.

<sup>47</sup> Sprint Comments at 15.

<sup>48</sup> CenturyLink Comments at 24.

networks into the outdated PSTN/TDM architecture and require multiple, unnecessary interconnection points.<sup>49</sup>

Nonetheless, it is unreasonable to think that traffic volume does not play some part in the negotiation of an IP interconnection or ignore that those providers with large volumes can exert leverage over their small competitors. While AT&T believes it possesses little bargaining leverage in negotiating terms of IP interconnection,<sup>50</sup> thus far, and regrettably so, this has not been Bandwidth's experience. The Commission must ensure that its IP interconnection standards enable each party, no matter how small or enormous it may be, to enter markets and compete with innovative services upon a baseline level of non-discriminatory terms.

**C. A Full Transition to IP Networks Will Require More Aggressive Reform of Originating Access Rates.**

With the notable exception of those vested interests in yesterday's PSTN, there is relatively wide consensus among commenting parties that originating access charges must be eliminated.<sup>51</sup> In addition, because the Commission has already aligned ICC rates for VoIP traffic with its overall transition to bill-and-keep for terminating access rates, there is already both a structure and support for harmonizing originating switched access rates in a similar manner. Google, Bandwidth, and many other parties urged the Commission to immediately adopt bill and keep for VoIP and to reduce non-VoIP terminating switched access rates to bill and keep as expeditiously as possible<sup>52</sup> and Bandwidth continues to believe that the Commission should be aggressive with its remaining reform efforts. As can be seen from the comments in this phase of

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<sup>49</sup> See Charter Comments at 14 (“any new edge rules cannot favor the continued use of hierarchical, circuit-switched networks.”); Comments of Cbeyond, Earthlink, Integra Telecom and tw telecom, WC Docket No. 10-90, *et al.* at 15-16 (filed Feb. 24, 2012).

<sup>50</sup> AT&T Comments at 32.

<sup>51</sup> See, e.g., Google Comments at 3-4; AT&T Comments at 70-74; Time Warner Comments 18-20; Verizon Comments at 4-7.

<sup>52</sup> Google Comments at 15-18; Comments of Bandwidth.com, Inc., WC Docket No. 10-90, *et al.*, at 12-14 (filed Feb. 24, 2012); *USF/ICC Reform Order and FNPRM*, 26 FCC Rcd 17663, ¶¶ 799.

the proceeding and the various IP interconnection proposals put forth by the incumbents, extending the transition of switched access rates only provides an incentive for carriers to perpetuate TDM infrastructure and policies. Therefore, Bandwidth urges the Commission to adopt a transition for originating access rates that is at least, and preferably more aggressive, than the schedule it has already adopted for terminating access reductions.

**D. A Default IP Interconnection Option or Minimum Set of Standards is Essential to Promote Competition and Ensure Equitable Treatment of VoIP Services.**

Bandwidth and other parties offered suggestions to establish “default” terms and conditions for IP interconnection that would apply in the event the parties cannot reach agreement. Each of these options has its own advantages. Whether the Commission adopts a Statement of Generally Available Terms (“SGAT”), a Technical Advisory Committee,<sup>53</sup> a “Rocket Docket” for resolving interconnection disputes, or some other solution to act as a backstop to commercial negotiations, the form is not important. What is critical is that the Commission put in place baseline non-discriminatory IP interconnection requirements to protect against the abuse of negotiating power and ensure competitive entry.<sup>54</sup>

As described above, unfortunately, it seems that some carriers prefer to cling to the policies and practices of the PSTN era and thereby cause delay and impose unjustified costs on competitors. Therefore, the Commission must establish a regulatory framework that provides incentives and protections aimed at advancing a broadband marketplace. Under such a framework, parties would continue to be free to negotiate different terms than those in the SGAT or default agreement and, most probably would do so to address their own unique circumstances.

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<sup>53</sup> Sprint/T-Mobile *Ex Parte Notice*, at 2.

<sup>54</sup> Charter Comments at 14; Windstream Comments at 14-15; Google Comments at 6.

Indeed AT&T's position that using voice as the basis for regulating IP networks and providers would create massive regulatory uncertainty<sup>55</sup> does not square with its desire to transition to IP interconnection by enforcing obsolete TDM voice-network architectural mandates that are decades old. Sprint, on the other hand, points out the tremendous advantages and nearly insignificant costs of layering VoIP over the existing IP network infrastructure. The contrast between these two positions, and the direction they would lead the industry is worth noting. That is, the net effect of AT&T's proposal drags already existing, state-of-the-art IP networks into the past, voice-centric regime, while Sprint seeks to pull voice into the application agnostic future. If, as the Commission has reiterated on many occasions, it seeks to advance IP networks and thereby the ensuing consumer benefits that immediately follow, a policy trajectory that accelerates the industry toward the future is inarguably the better path forward.

### **III. CONCLUSION**

Bandwidth urges the Commission not to lose sight of the goal of ubiquitous IP networks and the progress in that direction made by many of today's innovators. In order to continue that progress, providers must be free to negotiate IP interconnection terms that address their unique circumstances. However, in order to ensure that all parties to such negotiations have equal bargaining power and to address those situations in which the parties cannot reach agreement, the Commission must establish minimal, default IP interconnection terms to serve as a backstop mechanism. To be successful in promoting the transition to IP networks, the regulatory framework for IP interconnection cannot rely upon policies, network architecture or concepts rooted in the TDM/PSTN networks of the past.

One key TDM-based obstacle to further development of IP networks is the prolonged elimination of the existing ICC regime, which serves as a disincentive to IP deployment. Tying

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<sup>55</sup> AT&T Comments at 16.

the reduction of originating switched access rates to the same, lengthy transition given terminating switched access will only serve to provide further motivation to those carriers that have refused to abandon their TDM networks. Instead, to provide appropriate incentives for carriers to transition to IP networks, the Commission must adopt an aggressive, expedited timeline for the reduction of all originating access rates to bill and keep.

Respectfully submitted,

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