

**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)	WC Docket No. 07-135
Local Exchange Carriers)	
High-Cost Universal Service Support)	WC Docket No. 05-337
Developing an Unified Intercarrier)	CC Docket No. 01-92
Compensation Regime)	
Federal-State Joint Board on Universal Service)	CC Docket No. 96-45
Lifeline and Link-Up)	WC Docket No. 03-109
_____)	

REPLY COMMENTS OF CABLEVISION SYSTEMS CORPORATION

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Cablevision Systems Corporation (“Cablevision”) hereby submits these reply comments on certain issues raised in Sections XVII (L)-(R) (interconnection and intercarrier compensation related issues) of the Further Notice of Proposed Rulemaking in the above-captioned proceedings.^{1/} Like many other commenters, Cablevision strongly supports the Commission’s decision to clarify and enforce the requirement that carriers negotiate in good faith to provide IP-to-IP interconnection to requesting carriers.^{2/} In light of the widely-recognized public and competitive benefits of migrating to more efficient IP-to-IP interconnection and the history of refusal of incumbent local exchange carriers (“ILECs”) to fulfill requests for such

^{1/} See *Connect America Fund*, WC Docket No. 11-90, et al., Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161, ¶¶ 1335-98 (rel. Nov. 18, 2011) (“*FNRPM*”).

^{2/} *Id.* ¶ 1341.

interconnection, it is appropriate and necessary for the Commission to clarify the rights and obligations of carriers by setting specific “standards and enforcement mechanisms . . . to implement [the Commission’s] expectation that carriers negotiate in good faith.”^{3/}

INTRODUCTION AND SUMMARY

Clarifying ILEC obligations to fulfill requests for IP-to-IP interconnection will “accelerate the transition from circuit switched to IP networks” that the Commission has identified as a guiding principle for USF and intercarrier compensation (“ICC”) reform,^{4/} and will “further[] [the] overall goal of promoting a migration to modern IP networks.”^{5/} Lack of IP-to-IP interconnection hinders adoption of IP networks and slows progress toward the Commission’s goal of transition to an all-IP network.^{6/}

Contrary to claims by the large ILECs, reliance solely on commercial negotiations is unlikely to yield IP-to-IP interconnection agreements on just and reasonable terms and conditions. While the Commission’s express expectation of good faith negotiations is helpful, the long-standing refusal of many ILECs to honor IP-to-IP interconnection requests from other providers requires an express clarification of the ILECs’ statutory obligations in response to such requests.^{7/} The record is clear that without Commission intervention, ILECs will delay and avoid IP-to-IP interconnection wherever possible.

^{3/} *Id.* ¶ 1341. *See* Bandwidth.com Comments at 7 (“[G]ood faith’ cannot be merely a theoretical concept if it is to be effective.”).

^{4/} *Id.* ¶ 11.

^{5/} *Id.* ¶ 802. *See also id.* ¶ 968 (“One of the goals of our reform is to promote investment in and deployment of IP networks.”); *id.* ¶¶ 1009-11; *id.* ¶ 1335 (“The Commission has set an express goal of facilitating industry progression to all-IP networks, and ensuring transition to IP-to-IP interconnection is an important part of achieving that goal.”).

^{6/} *See id.* ¶ 1010.

^{7/} *Id.* ¶ 1335.

The Commission has ample statutory authority to make the IP-to-IP interconnection requirement explicit under section 251(c) of the Act. Section 251(c)(2) requires interconnection with the local exchange carrier's network without limiting that obligation to the use of any particular technology; requires ILECs to provide interconnection at any technically feasible point; and requires ILECs to provide interconnection that is at least equal in quality to that provided to themselves or any subsidiaries or affiliates.

ILECs around the country currently provide IP-to-IP interconnection internally or to their subsidiaries or affiliates, proving that such interconnection is both technically feasible and not superior to interconnection that ILECs provide to themselves. Indeed, ILECs have not shown that such IP-to-IP interconnection is not technically feasible. Nor is there any risk that a carefully tailored interpretation of the statute will lead to regulation of the Internet, as suggested by some commenters.

The transition to IP-to-IP interconnection can be most efficiently implemented by allowing requesting carriers to institute IP-to-IP interconnection through existing intercarrier compensation agreements. The Commission should not allow ILECs to require negotiation of an entire new agreement, which could be a costly and long process. The Commission need not prescribe detailed technical requirements. Such requirements are already developed and used by the industry, and given the rapidly changing technology any Commission codification of technical requirements could become quickly outdated. In any event, disputes over technical requirements can be resolved through section 252 arbitration procedures, as has long been the case for TDM interconnection. The Commission should clarify, however, that IP-to-IP interconnection is subject to existing requirements that a requesting carrier be able to

interconnect at any technically feasible point and may elect to interconnect at a single point in a LATA.

The Commission should also make clear that IP-to-IP interconnection must be provided, pursuant to section 251(c)(2)(D) of the Telecommunications Act,^{8/} at rates, terms, and conditions that are just, reasonable, and non-discriminatory, as those terms have been interpreted by the Commission in relation to other longstanding interconnection requirements. As a requirement under section 251, IP-to-IP interconnection at such rates would be enforceable under the arbitration provisions of section 252 of the Act. Likewise, the Commission should confirm that the IP-to-IP interconnection requirement is limited to voice traffic and that the voice traffic exchanged is subject to the intercarrier compensation regime recently established for VoIP-PSTN traffic. To the extent that ILECs must convert traffic from IP format to TDM format while they upgrade their networks to IP capability, the costs associated with conversion should properly be borne by the ILEC as the cost causer.

Finally, ILECs should be required to provide IP-to-IP interconnection regardless of whether they offer VoIP through a LEC or through a separate VoIP entity. The latter is properly considered a “successor or assign” of the LEC and therefore subject to the requirements of section 251(c), including the interconnection obligations in subsection (c)(2).

I. THE ACT REQUIRES ILECS TO FULFILL REQUESTS FOR IP-TO-IP INTERCONNECTION.

The Commission has previously recognized that “fundamentally, the long-term approach to intercarrier compensation reform . . . must be consistent with the exchange of traffic on an IP-

^{8/} 47 U.S.C. § 251(c)(2)(D).

to-IP basis” because IP-to-IP interconnection is a “more efficient form[] of interconnection.”^{9/}

Yet, as the record shows, ILECs routinely require IP traffic to be downconverted to the inferior and less efficient TDM format as a condition of interconnection with an ILEC’s network.^{10/} This *de facto* ILEC requirement to interconnect in legacy TDM format is an expensive and inefficient process, inimical to encouragement of conversion to all-IP networks.^{11/} Consistent with this goal, the Commission should make clear that section 251(c)(2) neither requires TDM interconnection nor precludes IP-to-IP interconnection and therefore requires ILECs to provide IP-to-IP interconnection upon request of a telecommunications carrier.^{12/}

^{9/} *Connect America Fund, et al.*, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, 26 FCC Rcd 4554, ¶ 527 (2011) (“*NPRM*”).

^{10/} *See, e.g.*, HyperCube Comments at 4 (“In HyperCube’s experience, a major obstacle to greater efficiency in traffic transmission has been the reluctance of many rural ILECs to exchange traffic directly with any LECs other than the large incumbent carriers, even when the interconnection requests are reasonable and supportable on an economic basis.”). *See also, e.g.*, *Connect America Fund*, WC Docket No. 10-90, Cablevision Comments at 3-4 (filed Apr. 18, 2011); *Connect America Fund*, WC Docket No. 10-90, COMPTTEL Comments at 7 (filed Apr. 18, 2011) (“COMPTTEL April 18 Comments”) (“The three largest incumbent LEC enterprises – AT&T, Verizon and CenturyLink/Qwest – all have extensive IP networks but have resisted allowing their competitors to interconnect on an IP-to-IP basis for the exchange of VoIP traffic pursuant to Section 251.”); *Connect America Fund*, WC Docket No. 10-90, Cox Communications Comments at 18-19 (filed Apr. 18, 2011); *Connect America Fund*, WC Docket No. 10-90, EarthLink Comments at 3 (filed Apr. 18, 2011) (“EarthLink April 18 Comments”) (“Although IP technology is already widely deployed within the industry, carrier interconnections in IP for voice services have lagged internal network deployments due in large part to incumbent LEC refusals to negotiate IP interconnection.”); *Connect America Fund*, WC Docket No. 10-90, PAETEC, et al. Comments at 4 (filed Apr. 18, 2011) (“[W]hat is delaying the transition to IP-to-IP interconnection is the resistance by the largest incumbent LECs”); *Connect America Fund*, WC Docket No. 10-90, Sprint Nextel Comments at 27 (filed Apr. 18, 2011) (“[E]ven ILECs that provide retail VoIP services have been reluctant, even unwilling, to discuss IP-IP interconnection with other IP network operators — even though their own customers would benefit by such interconnection.”); Letter from Howard J. Symons, counsel for Cablevision Systems Corporation, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket Nos. 10-90, et al., Attach. at 1-4 (filed Oct. 20, 2011) (summarizing record evidence of ILEC resistance to IP-to-IP interconnection).

^{11/} *Cf. NPRM* ¶ 40 (“The record suggests that the current ICC system is impeding the transition to all-IP networks and distorting carriers’ incentives to invest in new, efficient IP equipment.”).

^{12/} *See* Time Warner Cable Comments at 8 (“An obligation to negotiate IP-to-IP interconnection is consistent with, and is a logical extension of, . . . existing interconnection obligations.”).

A. Section 251(c)(2) Requires ILECs to Provide IP-to-IP Interconnection.

Section 251(c)(2)'s plain text and existing FCC precedent support an IP-to-IP interconnection requirement.^{13/} *First*, section 251(c)(2) is technology neutral; it requires “interconnection with the local exchange carrier’s network” without limiting that obligation to the use of any particular technology.^{14/} In the *FNRPM*, the Commission acknowledged 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.”^{15/} The same is true of ILEC interconnection obligations under section 251(c)(2) – they “do not depend upon the network technology underlying the interconnection,” and therefore require ILECs to provide IP-to-IP interconnection no less than they require provision of interconnection in TDM or other technologies.

Second, section 251(c)(2) requires ILECs to provide interconnection to “any requesting telecommunications carrier . . . at any technically feasible point within the [ILEC’s] network.”^{16/} IP-to-IP interconnection is technically feasible, and there has been no credible argument made by any party to the contrary.^{17/} Indeed, each of the three largest ILECs – AT&T, Verizon, and

^{13/} See, e.g., NCTA Comments at 6; Time Warner Cable Comments at 8-9, XO Communications Comments at 12-14.

^{14/} 47 U.S.C. § 251(c)(2). See Charter Comments at 4 (“[N]othing in the statute limits a carrier’s statutory interconnection obligations to the exchange of *only* circuit-switched voice traffic.”).

^{15/} *FNRPM* ¶ 1335.

^{16/} 47 U.S.C. § 251(c)(2).

^{17/} See Charter Comments at 4-5 (“There is no dispute that IP-to-IP interconnection is ‘technically feasible,’ as it is commonly used in interconnection arrangements between VoIP service providers today.”); US TelePacific and Mpower Comments at 21 (“IP interconnection has already been undertaken by carriers, demonstrating that IP interconnection is ‘technically feasible.’”); XO Communications Comments at 15 (“Because carriers are currently interconnecting on an IP basis, there can be no real argument that IP interconnection and exchange of traffic is not technically feasible.”)

CenturyLink – currently offers IP-to-IP interconnection when it suits them.^{18/} From a technical feasibility perspective there is nothing particularly controversial about IP-to-IP interconnection. Competitive providers, as new entrants into the market, are simply deploying standard modern-day networks as they enter such markets. These are precisely the same networks that ILECs are deploying as they migrate away from their legacy networks.^{19/}

Third, section 251(c)(2) requires ILECs to provide interconnection “that is at least equal in quality to that provided to itself or any subsidiary [or] affiliate.”^{20/} AT&T, Verizon, and CenturyLink, which each maintain significant and growing VoIP offerings, currently provide IP-to-IP interconnection internally or to subsidiaries or affiliates.^{21/} Many smaller ILECs also inevitably provide IP-to-IP interconnection internally (*i.e.*, “to themselves”) as they convert their networks to modern IP format. Where, as in the case of IP-to-IP interconnection, ILECs provide

^{18/} Verizon Comments at 12-13. *See also id.* at 13-14 (describing Verizon’s SIP Gateway Service that “allows VoIP providers to connect with Verizon in IP format and send Verizon all of their voice traffic over those IP connections”); text accompanying note 48, *infra* (describing AT&T’s Voice Over IP Connect Service (AVOICS)); Charter Comments at 5 (“The largest ILECs, including AT&T, Verizon and CenturyLink, have themselves acknowledged that they could readily accommodate IP-to-IP interconnection, thereby dispelling any assertion that such interconnection arrangements are not technically feasible.”).

^{19/} Even an ILEC that may not be using IP-to-IP interconnection methods internally is not absolved of its statutory duty to interconnect at any technically feasible point unless it can demonstrate some “technical or operational concerns that prevent the fulfillment of a request by a telecommunications carrier for such interconnection.” 47 C.F.R. § 51.5 (defining “Technically feasible”). The widespread availability of IP network equipment means that it would be exceedingly difficult for any ILEC to show that it is actually *prevented* from providing an IP interconnection. Commission rules have also already determined that “[t]he fact that an incumbent LEC must modify its facilities or equipment to respond to [an interconnection] request does not determine whether satisfying such [a] request is technically feasible.” *Id.*

^{20/} 47 U.S.C. § 251(c)(2).

^{21/} *See* Charter Comments at 7. Contrary to the arguments raised by some ILECs, *see, e.g.*, AT&T Comments at 50-51; CenturyLink Comments at 47-48, NECA, et al., Comments at 39-40, Verizon Comments at 32-33, the Eighth Circuit’s decision in *Iowa’s Utilities Board v. FCC* does not prevent the FCC from clarifying the applicability of section 251(c)(2) to IP-to-IP interconnection. VoIP providers do not seek a rule requiring “superior” interconnection from incumbents, of the sort that the Eighth Circuit invalidated; rather they seek only the same IP-to-IP interconnection that incumbents provide for their own VoIP services. *See* US TelePacific and Mpower Comments at 19-22.

an interconnection offering to themselves or their affiliates, the Telecommunications Act requires those ILECs to make that same offering available to competitors with interconnection facilities designed “to meet the same technical criteria and service standards.”^{22/}

Explicit adoption of an IP-to-IP interconnection requirement is thus not a new rule, but rather simply the application of the basic pro-competitive framework and precepts of the Telecommunications Act of 1996 to the realities of today’s networks.^{23/}

B. The Commission Need Not Classify VoIP Services as Telecommunications Services to Require ILECs to Provide IP-to-IP Interconnection.

Contrary to the arguments of some commenters,^{24/} VoIP need not be classified as a telecommunications service for section 251(c)(2) to apply to requests by telecommunications carriers for IP-to-IP interconnection.^{25/} To be sure, the right to interconnection under section

^{22/} *Local Competition Order* ¶ 224 (“We conclude that the equal in quality standard of section 251(c)(2)(C) requires an incumbent LEC to provide interconnection between its network and that of a requesting carrier at a level of quality that is at least indistinguishable from that which the incumbent provides itself, a subsidiary, an affiliate, or any other party.”).

^{23/} The Commission has long recognized its obligation to provide clarity to the general terms of section 251(c) to give parties to interconnection negotiations a common legal framework within which to negotiate. *See, e.g., Local Competition Order* ¶¶ 172-225 (interpreting various interconnection requirements of section 251(c)). In this instance, a direct statement that section 251(c)(2) includes such an obligation would fit easily within section 51.305 of the Commission’s rules. 47 C.F.R. § 51.305. Section 51.305 already includes what is meant by “any technically feasible point” and “level of quality that is equal to that which the incumbent LEC provides itself, a subsidiary, an affiliate, or any other party.” *Id.* § 51.305(a)(2), (3). “IP-to-IP interconnection” could simply be added to the list in subsection (a)(2) and as an example of the “same technical criteria and service standards” in the latter. Notably, section 51.305(c) already states that “[a]dherence to the same interface or protocol standards shall constitute evidence of the substantial similarity of network facilities.”

^{24/} *See, e.g.,* AT&T Comments at 38; CenturyLink Comments at 49; Cbeyond, et al., Comments at 23; COMPTTEL Comments at 21-26; NECA, et al., Comments at 38; Verizon Comments at 30-32. *See also* *Petition for Declaratory Ruling that tw telecom inc. has the Right to Direct IP-to-IP Interconnection Pursuant to Section 251(c)(2) of the Communications Act, and Amended, and for Transmission and Routing of tw telecom’s Facilities-Based VoIP Services and IP-in-the-Middle Voice Services*, WC Docket No. 11-119, *Petition for Declaratory Ruling*, at 8-15 (filed June 30, 2011).

^{25/} *See, e.g.,* Google Comments at 5; US TelePacific and Mpower Comments at 18; XO Communications Comments at 14-15. Section 251(c)(2) requires ILECs to provide interconnection for “any requesting telecommunications carrier.” Thus, IP-to-IP interconnection rights under section 251(c)(2) would be available only to CLECs or other telecommunications carriers.

251(c)(2) requires that it be used for the “transmission and routing of telephone exchange service and exchange access.” *Id.* But regardless of whether VoIP is a telecommunications service, that requirement is easily met with respect to IP-to-IP interconnection.

As an initial matter, carriers using interconnection to transmit circuit-switched traffic that is telephone exchange service or exchange access are entitled use that same interconnection under section 251(c)(2) for any VoIP service traffic they may be carrying even if VoIP itself is not telephone exchange service or exchange access.^{26/} The Commission’s rules have long provided that “[a] telecommunications carrier that has interconnected or gained access under sections 251(a)(1), 251(c)(2), or 251(c)(3) of the Act, may offer information services through the same arrangement, so long as it is offering telecommunications services through the same arrangement as well.”^{27/} The Commission can and should apply the same logic, recently affirmed in *Maine PUC*,^{28/} to transmission of VoIP traffic through interconnection obtained under section 251(c)(2).

Moreover, VoIP itself is telephone exchange service or exchange access regardless whether or not it is a telecommunications service.^{29/} The definition of “telephone exchange

^{26/} US TelePacific and Mpower Comments at 17-18 (“[R]egardless of the classification of VoIP as a telecommunications service or an information service, CLECs have the right to utilize interconnection arrangements for exchange of VoIP services so long as they also offer a telecommunications service ‘through the same arrangement.’”); *see also, e.g.*, Charter Comments at 6-7; Time Warner Cable Comments at 8.

^{27/} 47 C.F.R. § 51.100(b).

^{28/} *Petition of CRC Communications of Maine, Inc. and Time Warner Cable Inc. for Preemption Pursuant to Section 253 of the Communications Act, as Amended*, Declaratory Ruling, 26 FCC Rcd 8259, n.96 (2011) (“*Maine PUC*”).

^{29/} *Cf.* Verizon Comments at 30-31 (citing 47 U.S.C. § 153(54)(B) as defining telephone exchange service in the alternative as “comparable service provided through a system of switches, transmission equipment, or other facilities (or combination thereof) by which a subscriber can originate and terminate a telecommunications service”).

service” is in no way limited to services defined as telecommunications services.^{30/} And VoIP clearly falls under that definition as a “service within a telephone exchange, or within a connected system of telephone exchanges within the same exchange area operated to furnish to subscribers intercommunicating service of the character ordinarily furnished by a single exchange, and which is covered by the exchange service charge.”^{31/} The requirement that telephone exchange service must be provided “within a telephone exchange” has been held to mean simply that the “service must be ‘local’ in nature, as opposed to a ‘toll’ service.”^{32/} Interconnected VoIP service providers typically offer an “intercommunicating service” within a defined geographic area similar to a telephone exchange.^{33/}

Similarly, the requirement that the service be “covered by the exchange service charge” is used “only for the purposes of distinguishing whether or not a service is local,” and the requirement is met by any charge assessed for originating and terminating services within the

^{30/} Charter Comments at 4-6, COMPTTEL Comments at 24-26.

^{31/} Charter Comments at 5-6 (quoting 47 U.S.C. § 153(54)(A)).

^{32/} *BellSouth Telecomm. Inc. v. Finley*, 2010 U.S. Dist. LEXIS 131839, *25 (E.D. N. Car., 2010).

^{33/} Commission acknowledgement that VoIP service is telephone exchange service or exchange access service for purposes of section 251(c)(2) could raise a suggestion that VoIP service providers are therefore local exchange carriers (“LECs”). *See* 47 U.S.C. § 153(26) (defining the term “local exchange carrier” to mean “any person that is engaged in the provision of telephone exchange service or exchange access”). But there is no need for the Commission to so define VoIP service providers or address issues that may arise under other sections of the Communications Act from a determination that VoIP services provide telephone exchange service and exchange access service for purposes of section 251(c)(2). The Commission has on other occasions determined a regulatory definition of a service applied to one section of the Act does not mean the Commission must apply that definition to the service for purposes of other provisions of the Act. *See, e.g., Bright House Networks, LLC v. Verizon Cal., Inc.*, Memorandum Opinion and Order, 23 FCC Rcd 10704, ¶ 41 (2008) (“our decision holding the Competitive Carriers to be “telecommunications carriers” for purposes of *section 222(b)* does not mean that they are necessarily “telecommunications carriers” for purposes of all other provisions of the Act. We leave those determinations for another day.”) (emphasis in original), *aff’d Verizon California, Inc. v. FCC*, 555 F.3d 270, 276 (D.C. Cir. 2009) (“Because of that possibility – different contexts dictating different interpretations – courts addressing the meaning of a term in one context commonly refrain from any declaration as to its meaning elsewhere in the same statute. We cannot see that the Commission’s non-resolution of these other issues rendered its reasoning any more questionable than would a court’s similar exercise of caution.”).

equivalent of an exchange area.^{34/} VoIP service providers typically assess such a charge. The Commission has noted on several occasions the similarity of interconnected VoIP service to local exchange service provided by traditional telephone companies.^{35/}

AT&T is wrong in claiming that the Commission's *Vonage Order* defined VoIP services as "an indivisibly interstate, *interexchange*-type service" and thus carriers providing VoIP services are "not entitled to seek interconnection under section 251(c)(2)" for those services.^{36/} It is beyond question that VoIP services are used for local calling "within [an] exchange area," and the Commission has not, either in the *Vonage Order* or elsewhere, declared VoIP service providers to be providers of solely interexchange services. The *Vonage Order* itself stated that VoIP services include *both* interstate *and* intrastate communications,^{37/} a conclusion that the Commission has reiterated on several occasions since.^{38/}

^{34/} *Advanced Services Order* ¶ 27.

^{35/} See, e.g., *IP-Enabled Services*, Report and Order, 24 FCC Rcd 6039, ¶ 8 (2009); *Telephone Number Requirements for IP-Enabled Service Providers*, Report and Order, Declaratory Ruling, Order on Remand, and Notice of Proposed Rulemaking, 22 FCC Rcd 19531, ¶ 18 (2007); *Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996: Access to Telecommunications Service, Telecommunications equipment and Customer Premises Equipment by Persons with Disabilities*, Report and Order, 22 FCC Rcd 11275, ¶ 17 (2007); *Implementation of the Telecommunications Act of 1996: Telecommunications Carriers' Use of Customer Proprietary Network Information and Other Customer Information*, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 6927, ¶ 56 (2007); *E911 Requirements for IP-Enabled Service Providers*, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 10245, ¶ 23 (2005).

^{36/} AT&T Comments at 38 (emphasis in original).

^{37/} *Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, Memorandum Opinion and Order, 19 FCC Rcd. 22404, ¶ 32 (2004), *aff'd sub nom*, Minn. Pub. Util. Comm'n v. FCC, 483 F.3d 570 (8th Cir. 2007).

^{38/} *Universal Service Contribution Methodology*, Report and Order and Notice of Proposed Rulemaking, 21 FCC Rcd 7518, ¶ 42 & n.148 (2006) ("*VoIP USF Order*"); *Universal Service Contribution Methodology; Petition of Nebraska Public Service Commission and Kansas Corporation Commission for Declaratory Ruling or, in the Alternative, Adoption of Rule Declaring that State Universal Service Funds May Assess Nomadic VoIP Intrastate Revenues*, Declaratory Ruling, 25 FCC Rcd 15651, ¶ 14 (2010) (describing the *VoIP USF Order*).

Finally, commenters are also wrong in arguing that delivering VoIP calls to and from interexchange carriers cannot constitute “exchange access” unless VoIP is a telecommunications service.^{39/} Like the definition of “telephone exchange service,” nothing about the statutory definition of exchange access requires that it be used to facilitate telecommunications service. Regardless whether VoIP is a telecommunications service, the requirement that “telephone exchange service” provide “origination or termination of telephone toll services” is met with respect to VoIP because “CLECs that carry VoIP traffic . . . are clearly providing IXCs with the ability to place calls to, and receive calls from retail VoIP customers in other telephone exchanges.”^{40/}

C. Applying Section 251(c)(2) to IP-to-IP Interconnection For Voice Services Will Not Result in Regulation of the Internet.

IP-to-IP interconnection requirements can and should be limited to interconnection for exchanging voice traffic, as the Telecommunications Act requires.^{41/} Some commenters express concern that Commission regulation of IP-to-IP interconnection will inevitably lead to regulation of the Internet.^{42/} But limiting the IP-to-IP interconnection mandate to voice traffic, and in particular interconnected VoIP service traffic, will avoid any concern that the requirement will result in regulation of Internet services or Internet backbone peering.^{43/} Section 251(c)(2) is

^{39/} Verizon Comments at 31.

^{40/} Charter Comments at 6 (citing 47 U.S.C. § 153(16)).

^{41/} See *FNPRM* ¶ 1345 (inquiring as to whether “it make[s] sense as a policy matter to adopt an IP-to-IP interconnection framework focused specifically on voice service”).

^{42/} See AT&T Comments at 16-27; CenturyLink Comments at 42-43; Comcast Comments at 19 (“[R]egulation of IP-to-IP [voice] traffic has the potential to bleed into regulation of the Internet backbone itself”); Verizon Comments at 21-23.

^{43/} See Charter Comments at n. 19; NCTA Comments at 7-8; US TelePacific and Mpower Comments at 19. There is no real reason to believe that recognition of IP-to-IP interconnection rights for interconnected VoIP service providers will lead to international regulation of the Internet. See AT&T Comments at 26-27; Verizon Comments at 21-23. At most, other countries might follow the Commission’s example and mandate IP-to-IP interconnection for interconnected VoIP services –

limited to interconnection for the provision of telephone exchange service and exchange access. In suggesting that an IP-to-IP interconnection mandate might lead to regulation of the Internet, commenters conflate facilities-based VoIP with Internet access service or “over-the-top” VoIP offerings.^{44/} But facilities-based VoIP is completely different from Internet access services; it is simply the provision of voice service in an IP format. In most cases facilities-based VoIP does not even touch the Internet.^{45/} It is therefore neither necessary nor desirable to extend the IP-to-IP interconnection mandate to the exchange of Internet traffic.

Limiting IP-to-IP interconnection to voice traffic is technically feasible and not difficult to accomplish. IP-to-IP interconnection is commonly used for the termination of long distance voice traffic, particularly among IP providers where both end points of the call are in IP format. An example of existing voice IP-to-IP interconnection is the Voice Peering Fabric, which offers VoIP providers single meet points to exchange traffic in IP format either for free or at negotiated rates.^{46/} Cable providers as well have been developing a peering model to exchange VoIP traffic among themselves.^{47/} Similarly, AT&T offers a termination service that accepts VoIP originated domestic or international long distance calls in an IP-to-IP connection, and then converts the

potentially a benefit to efficient international networks. Much of the interconnected VoIP traffic to which the IP-to-IP interconnection requirement applies does not even touch the public Internet. *See* note 45, *infra*.

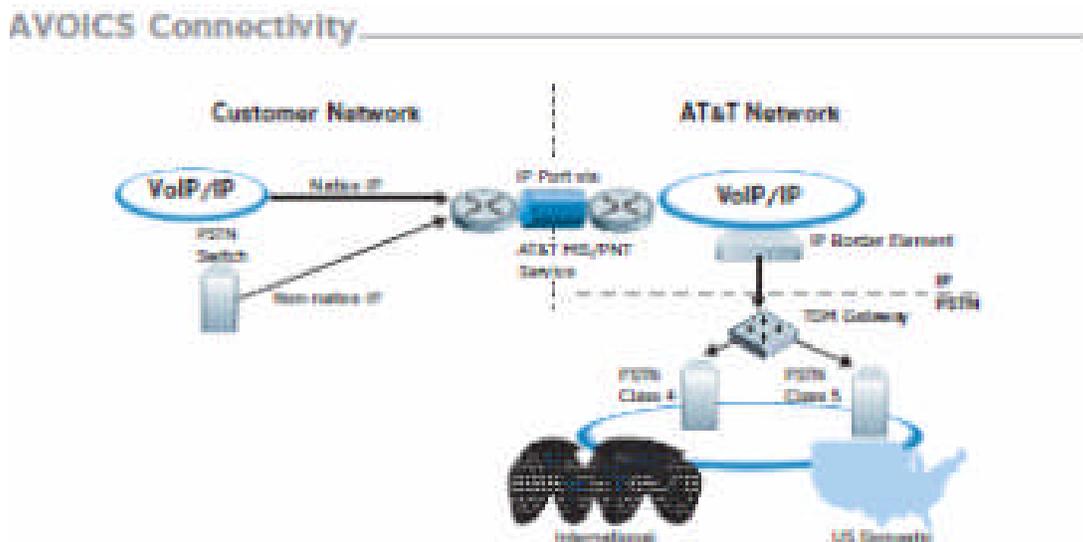
^{44/} *See, e.g.*, AT&T Comments at 10-25; Verizon Comments at 12-21.

^{45/} *See* Time Warner Cable Comments at 11 (“Although ‘Internet Protocol’ has the word ‘Internet’ in it, IP-to-IP interconnection under Section 251 does *not* involve ‘traffic exchanges on the Internet.’”); XO Communications Comments at 11 (“[T]hese [facilities-based VoIP] IP interconnection arrangements have no connection or impact on current IP peering arrangements and do not co-mingle voice traffic with Internet traffic currently exchanged via IP peering facilities.”). The fact that VoIP uses the same protocol as Internet traffic is wholly irrelevant for purposes of section 251’s requirements. Likewise, the obligations in section 251(a)(1) are limited to “telecommunications carriers,” i.e., providers of telecommunications services – and the FCC has made clear that the transmission component of broadband Internet access is not a stand-alone telecommunications service.

^{46/} *See* About the Voice Peering Fabric, at <http://www.thevpf.com/about> (last visited Feb. 22, 2012).

^{47/} *See, e.g.*, Brian Santo, *Cable Opens Peering Registry for VoIP, etc.*, CED MAGAZINE, Oct. 3, 2011, at <http://www.cedmagazine.com/news/2011/10/cable-opens-peering-registry-for-voip-etc>.

calls to TDM and delivers them to the PSTN for termination. AT&T illustrates this connectivity service in the following way:^{48/}



As these examples illustrate, there is little if any risk that clarifying section 251(c)(2)’s applicability to IP-to-IP interconnection risks regulating the Internet.^{49/}

II. RELIANCE ON ILEC WILLINGNESS TO ENTER INTO COMMERCIAL AGREEMENTS IS INSUFFICIENT TO ENSURE IP-TO-IP INTERCONNECTION.

Some commenters suggest that “voluntary commercial agreements will ensure efficient IP interconnection for voice,” and that Commission regulation of IP-to-IP interconnection is unnecessary.^{50/} But this argument ignores the substantial record evidence that ILECs – including

^{48/} Illustration from AT&T Voice Over IP Connect Service (AVOICS), at http://www.business.att.com/content/productbrochures/AVOICS_1169.pdf (last visited February 12, 2012).

^{49/} AT&T’s concern that a Commission clarification that IP-to-IP interconnection is required for exchange of IP voice traffic will lead to questions about whether the rules apply also to “videochat” services and voice features of “multiplayer online video game services,” AT&T Comments at 23-24, is readily addressed by limiting the interconnection requirement to exchange of interconnected VoIP services.

^{50/} Verizon Comments at 9-12. See also AT&T Comments at 2 (“There is no plausible basis for concern that traffic exchanges between IP networks will be any less efficient in the future than they have been for the past two decades or any more in need of prescriptive regulation.”); CenturyLink Comments at 37 (“Given that all carriers share the same incentives to migrate to next-generation networks as

some of the same carriers that urge leaving IP-to-IP interconnection to commercial agreements – have consistently delayed and avoided entering into IP-to-IP interconnection agreements with requesting carriers.^{51/} The ILEC commenters’ “trust us” approach ignores their continuing incentives to raise rivals costs – by requiring IP to TDM conversion – to impede rivals from capitalizing on investments in IP networks that provide more innovative voice services at lower prices than conventional voice offerings.

The Commission’s expectation that carriers will negotiate IP-to-IP interconnection in good faith is an important first step.^{52/} Given the history of ILECs’ intransigence to negotiate such agreements, however, the Commission’s expectation alone is unlikely to be sufficient to avoid continuing delays and difficulties in producing the rapid transition to IP-to-IP interconnection the Commission desires.^{53/} By contrast, Commission affirmation that section 251(c)(2) establishes the duty to fulfill requests for IP-to-IP interconnection will provide a well-established framework for these negotiations,^{54/} including the arbitration and complaint procedures of section 252 in the event of disputes over interconnection terms and conditions.^{55/}

expeditiously as possible, there is no need for the Commission to develop rules that will distort the natural evolution to IP networks and the interconnection of those networks.”); Comcast Comments at 20 (“The Commission should encourage and facilitate the negotiation of such commercial [IP-to-IP interconnection] solutions, but more intrusive regulatory intervention now could . . . risk creating unforeseen arbitrage opportunities and costly inefficiencies that are not yet understood or predictable.”).

^{51/} See note 10, *supra*.

^{52/} *FNPRM* ¶ 1011.

^{53/} See *id.* ¶ 1010 (“IP interconnection between providers . . . is critical.”). See also Bandwidth.com Comments at 7 (“[B]ecause there remain wildly disproportionate levels of negotiating power centered upon the PSTN today, the Commission cannot prod the industry along [to IP-to-IP interconnection] with a completely hands-off approach.”).

^{54/} See Part I, *supra*.

^{55/} See, e.g., Ad Hoc Telecommunications Users Committee Comments at 8-11 (arguing that “the Commission cannot rely on ‘good faith negotiations’ to resolve IP-IP interconnection disputes” without employing concrete enforcement mechanisms); Google Comments at 6-7 (“[A] backstop mechanism, rather than sole reliance upon voluntary commercial agreements, is the most logical approach to promoting seamless [IP-to-IP] interconnection.”).

III. THE COMMISSION SHOULD APPLY EXISTING INTERCONNECTION RATE-SETTING STANDARDS AND VOIP INTERCARRIER COMPENSATION RATES TO IP-TO-IP INTERCONNECTION.

ILECs required by the Commission to provide IP-to-IP interconnection should not be allowed to disadvantage competitors by attempting to apply unreasonable rates to interconnection elements or to traffic exchanged over IP-to-IP interconnection facilities. To prevent this, the Commission should affirm that it will apply to IP-to-IP interconnection the section 251 requirement that ILECs provide interconnection elements at “rates, terms, and conditions that are just, reasonable, and nondiscriminatory”^{56/} as these terms have been interpreted and applied by the Commission in other interconnection contexts since they were adopted in the Telecommunications Act of 1996.^{57/} In addition, to prevent ILECs from undermining IP-to-IP interconnection by insisting on uneconomic rates for the exchange of voice traffic in native IP format, the Commission should require that such traffic is subject to the same intercarrier compensation regime the Commission has established for VoIP-PSTN traffic.^{58/}

A. Charges for IP-to-IP Interconnection Elements Should Be Limited to Cost Based Rates.

When the Commission first addressed the interconnection requirements of the 1996 Act, it determined that “although the 1996 Act requires incumbent LECs . . . to provide interconnection . . . on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, incumbent LECs have strong incentives to resist such obligations.”^{59/} The Commission determined that “[t]he inequality of bargaining power between incumbents and new

^{56/} 47 U.S.C. § 251(c)(2)(D).

^{57/} See Charter Comments at 8-9.

^{58/} *FNRPM* ¶¶ 940-71.

^{59/} *Local Competition Order* ¶ 55.

entrants militate[d] in favor of rules that have the effect of equalizing bargaining power.”^{60/}

While section 252 requires state commissions to apply in arbitration of interconnection agreements that just and reasonable rates for interconnection facilities and equipment “shall be based on the cost . . . of providing the interconnection or network element,”^{61/} the Commission was concerned that without direction the states might adopt differing standards for the rule, leading to confusion and inequality. Consequently, the Commission determined to adopt national rules to “more directly address these competitive circumstances.”^{62/}

The result was the establishment of a set of rules that required ILECs to provide interconnection services on the basis of a “forward-looking, cost-based pricing methodology” that became known as TELRIC pricing.^{63/} The use of TELRIC to determine just and reasonable rates for interconnection facilities and services was affirmed on judicial challenge,^{64/} and remains the standard to be employed by the Commission and state commissions.^{65/}

There is no logical reason not to apply the same standard to IP-to-IP interconnection.^{66/} Such a determination will further ensure that IP-to-IP interconnection is provided on a fair and equitable basis and that the efficiencies of an IP network can be realized by the parties that invest

^{60/} *Id.*

^{61/} 47 U.S.C. § 252(d)(1).

^{62/} *Local Competition Order* ¶ 55.

^{63/} *See id.* ¶¶ 618, *et seq.* TELRIC is an acronym for Total Element Long Run Incremental Cost. *Id.* ¶ 672.

^{64/} *See Verizon Communications Inc. v. FCC*, 535 U.S. 467 (2002).

^{65/} *See, e.g., Review of the Commission’s Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers*, Notice of Proposed Rulemaking, 18, FCC Rcd 18945, ¶ 147 (2003).

^{66/} *See* Charter Comments at 8 (urging that existing interconnection principles, including “cost based rates,” should “be applied to IP-based networks just as they have been applied to TDM-based networks”); Cbeyond, et al., Comments at 24 (“Consistent with the pricing standards of Section 252(d)(1), the Commission should require incumbent LECs to provide IP interconnection arrangements at cost-based rates.”); T-Mobile Comments at 15-16.

in them.^{67/} Any other rule could produce the illogical result of allowing ILECs to charge higher rates for IP-to-IP interconnection than for TDM interconnection, despite the fact that IP-to-IP interconnection is far more efficient.^{67/}

Likewise, having clarified that ILECs have an obligation to negotiate IP-to-IP interconnection agreements in good faith on the same pricing standards as any other interconnection agreements, the Commission should further clarify that the process for ensuring compliance with that expectation should be no different than the longstanding and well understood complaint and arbitration process established under section 252 of the Act for negotiation and maintenance of interconnection agreements.^{68/} Both competitive carriers and ILECs are familiar with the processes established by section 252, and a declaration to follow that same process for resolution of disputes about IP-to-IP interconnection agreements should result in far less confusion and controversy than any attempt to create a new system.^{69/}

^{67/} See, e.g., COMPTTEL White Paper, ETC Group, LLC, “IP Interconnection for Managed VoIP,” at 21-23 (Apr. 11, 2011), available at http://comptel.org/Files/filings/2011/12-12-11_Comments_on_NG911_attachment_IP%20interconnection_Whitepaper.pdf (describing the “financial and operational benefits of IP interconnection”); Douglas G. Bonner, *FCC Requests Comment on Whether Direct IP-to-IP Interconnection is Available to Telecom Competitors*, MARTINDALE.COM, July 25, 2011, at http://www.martindale.com/internet-law/article_SNR-Denton_1319960.htm (“IP-to-IP interconnection is more efficient because it requires fewer facilities and eliminates the expensive step of format conversion in the exchange of traffic, decreasing costs for carriers and customers alike.”). See also, e.g., Letter from David E. Young, Vice President Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 01-92, at 2 (filed Dec. 7, 2011) (“[E]fficiency is one of the benefits of IP interconnection . . .”).

^{68/} 47 U.S.C. § 252. See, e.g., YMax Communications Commission Comments at 9-10 (urging “that the Commission establish that the existing Section 252 rules, including the opportunity for binding arbitration if negotiations reach an impasse, will guide negotiation of IP interconnection agreements.”).

^{69/} Wisconsin Public Service Commission Comments at 9-10 (“If all parties know the rules of the game from the start (and §§ 251 and 252 appear to be a reasonable set of rules), some unnecessary delay in the progression to IP networks may be avoided.”).

B. Rates for Traffic Exchanged Over IP-to-IP Interconnection Facilities Should Be Subject to the Same Inter-carrier Compensation Regime Established for VoIP-PSTN Traffic.

The public benefits of the efficiency of IP-to-IP interconnection can be lost, even if covered by the same pricing standards as traditional interconnection, if ILECs can exercise their market power to impose asymmetric or otherwise unjust or unfair inter-carrier compensation rates on the exchange of voice traffic over IP-to-IP interconnections. To avoid this risk, the Commission should extend its recently-adopted VoIP-PSTN inter-carrier compensation regime to this traffic as well.^{70/} Doing so will limit possibilities for regulatory arbitrage and ensure that a significant and growing segment of inter-carrier voice traffic exchange is not left outside of the ICC framework the Commission established in its recent order. Carriers would, however, be free to negotiate different arrangements should they so choose.

IV. THE BENEFITS OF IP-TO-IP INTERCONNECTION CAN BE EFFICIENTLY REALIZED THROUGH EXISTING INTERCONNECTION AGREEMENTS.

Realization of the public benefits that can accrue from widespread implementation of IP-to-IP interconnection will be significantly delayed if the only means to implement an IP-to-IP interconnection agreement between two providers is negotiation and arbitration of a completely new interconnection agreement. As explained above, IP-to-IP interconnection with an ILEC is an existing right for requesting carriers under section 251 (c)(2). For those parties that have an existing interconnection agreement and seek to implement IP-to-IP interconnection, the Commission should hold that IP-to-IP interconnection is available under the terms of existing interconnection agreements. There is no logical reason or legal grounds to require a carrier with existing interconnection agreements to negotiate and arbitrate new interconnection agreements in order to transition to IP-to-IP interconnection. To the extent that carriers determine that

^{70/} FNPRM ¶¶ 940-71.

additional or different terms are required in existing interconnection agreements to implement IP-to-IP interconnection, the Commission should declare that, with respect to any such agreements, any new or additional terms that are necessary can be negotiated under the terms and conditions of those agreements.

V. TECHNICAL ASPECTS OF IP-TO-IP INTERCONNECTION ARE APPROPRIATELY NEGOTIATED BETWEEN THE PARTIES.

There is no need for the Commission to prescribe detailed requirements for IP-to-IP interconnection as a precondition of clarifying the ILECs' obligation to provide such interconnection. For the most part, technical aspects of IP-to-IP interconnection are best addressed through negotiations between interconnecting parties.^{71/} Given the variation in specific technical conditions and the rapid development of the technology, detailed technical interconnection requirements imposed by the Commission could inhibit development of agreements that truly meet the needs of the parties and might quickly become outdated. The better approach is to allow the parties free reign to negotiate the specific technical arrangements consistent with the right to request IP-to-IP interconnection – subject, as suggested above, to arbitration under section 252 where agreement on these matters cannot otherwise be reached.^{72/}

The Commission should affirm, however, that its existing rule allowing a requesting carrier to interconnect at any technically feasible point and have the option to interconnect at a

^{71/} Time Warner Cable Comments at 9 (“Consistent with the general preference for negotiation reflected in the Act, the Commission should not short-circuit the negotiation process for IP-to-IP interconnection by dictating particular network configurations or requiring negotiating parties to incorporate the specific interconnection obligations prescribed for TDM and circuit-switched network interconnection.”).

^{72/} Time Warner Cable Comments at 9-10 (“If a requesting carrier cannot reach a voluntary agreement with the ILEC to exchange traffic in IP format, the competitor may then invoke its arbitration rights under Section 252, allowing interconnection to proceed in the IP context under the same procedures that have while enabling the development of specific arrangements that reflect the unique structure of IP networks.”).

single point of interconnection (POI) per LATA will apply to IP-to-IP interconnection.^{73/} Some commenters suggest IP-to-IP interconnection points should be limited to a single point in each state or even regional areas.^{74/} The benefits of the inherent efficiency of an IP network can be quickly lost if the requesting carrier is forced to interconnect at multiple points in a single service area. The ability to interconnect at a single point in a broad area such as a LATA or broader area (if that is the best approach for the requesting carrier) is even more necessary in an IP environment than in traditional networks and should be applied to IP-to-IP interconnection.

VI. OBLIGATING THE PARTY REQUIRING TDM CONVERSION TO BEAR THE COSTS OF THAT CONVERSION IS AN APPROPRIATE MEASURE.

It is currently a relatively common practice among ILECs to require interconnecting carriers to convert VoIP service traffic to TDM format before exchange.^{75/} Eventually the requirement to provide requesting carriers IP-to-IP interconnection should eliminate this practice.^{76/} But to account for instances where TDM conversion is nevertheless required by an ILEC, perhaps during lengthy negotiation and possible arbitration of an IP-to-IP interconnection

^{73/} *FNRPM* ¶ 1316. *See, e.g.,* Cbeyond, et al., Comments at 15-16.

^{74/} *See, e.g.,* COMPTTEL Comments at 32; HyperCube Comments at 12; Leap Wireless and Cricket Communications Comments at 13, 15; T-Mobile Comments at 5-6; YMax Communications Comments at 8-9; XO Communications Comments at 18. *Cf.* Sprint Nextel Comments at 16-23 (urging that “POIs used with IP voice interconnection should presumptively be located at the [regional] places where IP network operators currently exchange non-voice traffic so voice traffic can utilize the same IP facilities that non-voice traffic uses.”). *But see* Cbeyond, et al., Comments at 25 (urging that the Commission not mandate the location of physical POIs for IP-to-IP interconnection “at this time”).

^{75/} *See* Charter Comments at 9; NCTA Comments at 6. *See also, e.g.,* *Connect America Fund*, WC Docket No. 10-90, Cablevision Reply Comments at 2-3 (filed May 23, 2011); *Connect America Fund*, WC Docket No. 10-90, Charter Communications Comments at 7-8 (filed Apr. 18, 2011); *Connect America Fund*, WC Docket No. 10-90, COMPTTEL Reply Comments at 5 (filed May 23, 2011); *Connect America Fund*, WC Docket No. 10-90, PAETEC Reply Comments at 18 (filed May 23, 2011); *Petition for Declaratory Ruling that tw telecom inc. has the Right to Direct IP-to-IP Interconnection Pursuant to section 251(c)(2) of the Communications Act, and Amended, and for Transmission and Routing of tw telecom’s Facilities-Based VoIP Services and IP-in-the-Middle Voice Services*, WC Docket No. 11-119, tw telecom, et al., Reply Comments at 8 (filed Aug. 30, 2011).

^{76/} *See* Sprint Nextel Comments at 25 (“TDM services may continue to be offered but IP interconnection must be universally available.”).

agreement, the Commission should adopt its proposal to make a carrier that requires conversion of VoIP traffic to TDM format bear the costs of the conversion.^{77/} Such a requirement would act both to allocate costs to the cost causer and to promote adoption of more efficient IP networks.^{78/}

As the Commission observed in the National Broadband Plan, when carriers “require an interconnecting carrier to convert Voice over Internet Protocol (VoIP) calls to time-division multiplexing . . . it actually hinders the transformation of America’s networks to broadband.”^{79/} Carriers that refuse to accept VoIP traffic in IP, increase competitors’ costs to interconnect and thereby harm their ability to compete. When a carrier that has invested in a state-of-the-art IP network is forced to convert calls to TDM the bandwidth efficiencies of its IP network are lost and it is often required to purchase, lease, or build circuit switch-compatible trunks to deliver calls to the TDM point of interconnection.^{80/} Where a carrier requires conversion to TDM, the cost of undertaking the conversion is more appropriately borne by that carrier because its legacy

^{77/} *FNRPM* ¶ 1341. *See, e.g.*, Charter Comments at 9 (supporting a requirement that the party that requires TDM conversion bear the costs of conversion); Leap Wireless and Cricket Communications Comments at 13 (same); NCTA Comments at 6-7 (same); XO Communications Comments at 16 (same); YMax Communications Comments at 3 (“If a carrier wants to continue to use outdated TDM technology to serve its own customers, that is its business; but other providers should not be required to bear any extra cost to interchange traffic with those legacy carriers.”).

^{78/} Requiring ILECs to bear the costs of converting VoIP traffic to TDM format is separate from the issue of the cost-based pricing standard for IP-to-IP interconnection itself. *See* Part III, *supra*. Costs of a carrier’s network on its side of the point of interconnection – such as costs associated with converting traffic to TDM format after the traffic passes through an IP-to-IP interconnection meet point – are properly that carrier’s network costs, and not part of the costs of IP-to-IP interconnection to which cost-based pricing should apply. *See* 47 C.F.R. § 51.5 (“A meet point is a point of interconnection between two networks . . . at which one carrier’s responsibility for service begins and the other carrier’s responsibility ends.”).

^{79/} Connecting America: The National Broadband Plan, at 142. *See also, e.g.*, XO Communications Comments at 16 (“[I]f a TDM-based carrier can continue to impose costs of conversion onto other IP-based carriers, there will be little incentive for either carrier to additionally deploy IP.”).

^{80/} *See* Time Warner Cable Comments at 11 (“[I]ncreasing the costs and complexity of interconnection by preventing IP-originated voice traffic from being exchanged in IP format can diminish service quality and impede innovation.”).

circuit-switched network is what requires conversion of calls from IP to TDM.^{81/} The requirement to absorb the costs of IP to TDM conversion will also encourage the carrier to accelerate conversion to an all-IP network.^{82/}

Thus, to further promote the Commission's national broadband goals the requirement that a carrier requiring TDM conversion bear the costs of that conversion should apply to carriers that continue to maintain all-TDM networks, as well as those that have partially converted to an IP network.^{83/} In the latter case, the requirement will provide an incentive to hasten the conversion of the carrier's network, in the former case it will provide an incentive to initiate conversion – in both cases promoting development of the all-IP national network.^{84/}

VII. CARRIERS SHOULD NOT BE ALLOWED TO AVOID IP-TO-IP INTERCONNECTION OBLIGATIONS BY USING SUBSIDIARIES OR AFFILIATES TO PROVIDE IP VOICE SERVICES.

As discussed above, section 251(c)(2)(C) requires each ILEC to provide interconnection “that is at least equal in quality to that provided by the [incumbent] local exchange carrier to itself or to any subsidiary, affiliate, or any other party to which the carrier provides

^{81/} See California Public Utilities Commission Comments at 19 (“[T]he costs of the IP-to-TDM conversion should be borne by the carrier that elects TDM interconnection.”). Cf. COMPTTEL Comments at 30-31 (“The best way for conversion costs to be ‘borne by the carrier electing TDM conversion’ is for the carriers to interconnect in IP . . . and then (if needed) perform the TDM conversion on its side of the interconnection. In this way, the costs would be absorbed by the carrier favoring old technology (the carrier that requires the TDM conversion to complete the call), not by first imposing those costs on the carrier favoring the IP interconnection, that doesn’t require the TDM conversion.”).

^{82/} XO Communications Comments at 19.

^{83/} CenturyLink argues to the contrary, that where an ILEC has not converted its network to IP requiring the ILEC to bear the costs of the TDM conversion will drain resources that could more efficiently be applied to expansion of the ILEC's broadband network. CenturyLink Comments at 53. See also NECA, et al., Comments at 39 (urging that IP-to-IP interconnection requirements be “limited to those situations in which both parties . . . have already deployed IP trunking capabilities”). But limiting the network upgrade incentive created by the costs of TDM conversion to only ILECs that have initiated upgrading their networks to IP would act as a disincentive for some ILECs to begin the upgrade process, instead encouraging them to simply maintain their legacy TDM networks.

^{84/} See Charter Comments at 9 (“[T]he fact that ILECs require more efficient carriers to bear the burden of TDM conversion . . . provides disincentives for ILECs to transition to all IP networks.”).

interconnection.”^{85/} While certain ILECs may provide their IP and TDM services through different corporate entities and perform the associated TDM-IP conversion via the IP entity,^{86/} an IP affiliate should be considered part of the ILEC for determining whether the ILEC is already providing IP-to-IP interconnection for purposes of section 251(c)(2).^{87/}

That is because such an IP affiliate is, in virtually all instances, a “successor or assign” of the ILEC under section 251(h) and section 3(5) (the definition of “Bell operating company” (“BOC”)). An ILEC is defined in section 251(h)(1) of the Communications Act as a carrier that was providing local exchange service as of the date of enactment of the 1996 Communications Act and was a member of the National Exchange Carrier Association on such date, or that is a “successor or assign” of such a carrier, even if that entity was not itself providing service in the

^{85/} 47 U.S.C. § 251(c)(2)(C) (emphasis added).

^{86/} *Petition for Declaratory Ruling that tw telecom inc. has the Right to Direct IP-to-IP Interconnection Pursuant to section 251(c)(2) of the Communications Act, and Amended, and for Transmission and Routing of tw telecom’s Facilities-Based VoIP Services and IP-in-the-Middle Voice Services*, WC Docket No. 11-119, AT&T Comments at 9-10 (filed Oct. 21, 2011) (“[I]t is the ILECs’ affiliates . . . that have deployed IP networks and are offering IP-based services (including VoIP services), and that are converting IP traffic to TDM for transmission and routing on the PSTN where necessary.”). Verizon has acknowledged previously that its advanced services are provided under its pre-existing authorizations to provide telephone service. *See e.g., Joint Petition of the Town of Babylon, the Cable Telecommunications Association of New York, Inc. and CSC Holdings, Inc. for a Declaratory Ruling Concerning Unfranchised Construction of Cable Systems in New York by Verizon Communications, Inc.*, Case 05-M-0250, Brief of Verizon New York in Opposition to the Petition, March 24, 2005, at 18 (“Verizon’s ‘statewide telephone and telegraph franchise’ provides an independent source of authority for the use of rights of ways to construct and place facilities — such as FTTP — that will be used to provide telecommunications and information services that do not involve video programming”).

^{87/} Time Warner Cable Comments at 13 (“Section 251 creates an obligation of ILECs to negotiate interconnection of voice networks in good faith, including IP-to-IP interconnection, and ILECs cannot evade that obligation through corporate artifices.”); T-Mobile Comments at 5, 8-9 (“Failure to include ILEC affiliates in any limitation on ILEC interconnection practices would allow ILECs to sidestep IP interconnection obligations and thus inhibit competition and slow the transition to an IP interconnection regime.”); US TelePacific and Mpower Comments at 14-15 (“The Commission should make clear that [ILECs’ corporate] shell game will not be permitted to undermine IP-to-IP interconnection by affirming that which ILEC affiliate owns what facilities and equipment is irrelevant to determining whether a particular form of interconnection is ‘technically feasible’ and required under section 251(c)(2).”); XO Communications Comments at 15-16.

area or a member of NECA as of that date.^{88/} The Commission has long held that an affiliate will be considered a “successor or assign” of an ILEC if, given the totality of the circumstances, “substantial continuity” exists between the affiliate and the ILEC.^{89/} Among the factors weighing in favor of a determination that an affiliate is a “successor or assign” are the lack of physical separation between the entities, the transfer of substantial assets to the affiliate, and the derivation of an unfair advantage from the incumbent.^{90/} It is “implausible” that a “wholly-owned affiliate” providing service “to customers previously served by its ILEC parent, marketed under the name of its ILEC parent, should be presumed to be exempted from the [section 251(c)] duties of that ILEC parent.”^{91/} An affiliate that “stands in the shoes” of a parent is a successor or assign of the ILEC.^{92/}

That analysis leads inevitably to the conclusion that ILEC IP affiliates should be treated as ILECs for purposes of section 251(c).^{93/} There is no indication from the ILECs that “substantial continuity” does not exist between their IP based affiliates and the companies or the companies’ affiliated ILECs. To the contrary, the ILECs are holding out IP services under the

^{88/} See 47 U.S.C. § 251(h)(1). See also *Applications of Ameritech Corp., Transferor, and SBC Communications Inc., Transferee, for Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95 and 101 of the Commission’s Rules*, Memorandum Opinion and Order, 14 FCC Rcd 14712, ¶¶ 447-48 (1999) (“1999 Ameritech/SBC Order”) (subsequent history omitted).

^{89/} See, e.g., *1999 Ameritech/SBC Order* ¶ 457; *Applications Filed for the Transfer of Certain Spectrum Licenses and Section 214 Authorizations in the States of Maine, New Hampshire, and Vermont from Verizon Communications Inc. and its Subsidiaries to FairPoint Communications, Inc.*, Memorandum Opinion and Order, 23 FCC Rcd 514, ¶ 33-34 (2008) (noting that “a successor or assign analysis is ultimately fact-based” and that “courts have generally applied a ‘substantial continuity’ test to determine whether one entity replaces another.”).

^{90/} *1999 Ameritech/SBC Order* ¶ 457.

^{91/} *Ass’n of Communs. Enters. v. FCC*, 235 F.3d 662, 668 (D.C. Cir. 2001).

^{92/} Cf. *1999 Ameritech/SBC Order* ¶ 457 (explaining that the purpose of the test is to ensure that an advanced services affiliate is not, in effect, “standing in the shoes” of an ILEC).

^{93/} See COMPTTEL Comments at 26-28.

same brand as the traditional services,^{94/} migrating their circuit-switched customer base to IP services, and using their affiliates to an unfair advantage by refusing to provide IP interconnection only to requesting carriers.^{95/} AT&T's argument that its VoIP-providing subsidiary cannot be an ILEC because it does not provide telephone exchange service or exchange access fails because, as explained above, interconnected VoIP services are providers of both telephone exchange service and exchange access.^{96/}

Accordingly, regardless of the ILEC corporate entity actually providing IP-to-IP interconnection, the ILEC must make that interconnection available to requesting carriers pursuant to the obligation under section 251(c)(2) of the Act to provide interconnection to requesting carriers "that is at least equal in quality to that provided to itself or any subsidiary [or] affiliate."^{97/} Allowing ILECs to evade this obligation by locating the necessary facilities in their

^{94/} See, e.g., CenturyLink Wholesale: Products and Services, available at <http://www.centurylink.com/wholesale/pcat/natipvoiceterm.html> (last visited Oct. 20, 2011) (advertising CenturyLink as a "single provider for both traditional long distance as well as IP Voice 1+ Termination."); Verizon Global Wholesale: SIP Gateway Service, available at <http://www22.verizon.com/wholesale/solutions/solution/sip%2Bgateway%2Bservice.html> (last visited Oct. 20, 2011) ("Use Verizon's SIP Gateway Service to offer your subscribers comprehensive telephony products over a variety of traffic types, including local, domestic US long distance, international long distance, inbound and outbound.").

^{95/} See *Petition for Declaratory Ruling that tw telecom inc. has the Right to Direct IP-to-IP Interconnection Pursuant to section 251(c)(2) of the Communications Act, and Amended, and for Transmission and Routing of tw telecom's Facilities-Based VoIP Services and IP-in-the-Middle Voice Services*, WC Docket No. 11-119, EarthLink Reply Comments, at 7-8 (filed Aug. 30, 2011) (asserting that Verizon uses IP in its ILEC network and for its own interconnection). See also *Connect America Fund*, WC Docket No. 10-90, PAETEC Holding Corp. Comments, at 18 (filed Aug. 24, 2011) ("The Commission and a host of others have recognized that certain ILECs are hindering progress to all-IP networks because they refuse requests for IP interconnection . . .").

^{96/} AT&T Comments at 39-40. See Part I.B., *supra*.

^{97/} The cost of IP-to-TDM conversion and associated network upgrades are properly borne by the ILECs. See Part VI, *supra*. See also Cablevision Reply Comments, at 7-8.

affiliates would enable them to eviscerate this provision entirely, which the Commission has ample authority to prevent.^{98/}

Moreover, “successors and assigns” of Bell Operating Companies are explicitly deemed to be BOCs by statute.^{99/} In determining whether an affiliate constitutes a “successor or assign” of a BOC, the Commission uses the same “substantial continuity” analysis as it does for successors and assigns of ILECs, including an evaluation of the physical separation between the entities, the transfer of substantial assets, and any unfair advantages conferred.^{100/} As discussed above, there is “substantial continuity” between the Bell companies and their IP-based affiliates. Thus, such affiliates must be considered BOCs as well. Because BOCs are explicitly required by section 271(c)(2)(B)(i) to provide “[i]nterconnection in accordance with the requirements of section [] 251(c)(2),” even if IP-to-IP interconnection is provided by the IP affiliate, that interconnection must be made available to requesting carriers.^{101/}

^{98/} See Sprint Nextel Comments at 13 (“The Commission is right to be ‘concerned’ by the corporate affiliate shell games that certain incumbent voice providers have played.”).

^{99/} See 47 U.S.C. § 153(4)(B) (including in the definition of a “Bell Operating Company” any “successor or assign of any such company that provides wireline telephone exchange service.”).

^{100/} See, e.g., 1999 Ameritech/SBC Order at ¶¶ 450-51 (discussing the Commission’s “successor or assign” analysis with respect to ILECs and BOCs).

^{101/} See 47 U.S.C. § 271(c)(2)(B)(i).

CONCLUSION

The Commission can and should adopt a requirement for IP-to-IP interconnection with the features and limitations described above.

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