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

COMMENTS
OF
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COMMENTS
OF
CHARTER COMMUNICATIONS, INC.

Charter Communications, Inc. ("Charter") hereby submits comments on certain issues raised in Sections XVII(M)-(R), (interconnection and intercarrier compensation related issues) of the Further Notice of Proposed Rulemaking ("FNPRM") issued by the Federal Communications Commission ("FCC" or "Commission") in the above-captioned dockets.[1]

INTRODUCTION AND SUMMARY

As the Commission considers important next steps in the implementation of its planned bill-and-keep regime, it recognizes that additional steps are necessary to ensure that Internet Protocol ("IP")-based networks can, and will, be deployed to support the provision of advanced

[1] *In the Matter of Connect America Fund, et al.*, Report and Order & Further Notice of Proposed Rulemaking, FCC 11-161 (rel. Nov. 18, 2011) ("*Order and FNPRM*").

services in the future. This, however, will not occur without direct intervention by the Commission. Such intervention can occur immediately, simply by affirming and enforcing current statutes and regulations.

In particular, the Communications Act and Commission rules require incumbent local exchange carriers ("ILECs") to interconnect with competitors' networks in IP format. The Commission can facilitate the further deployment and expansion of all-IP networks simply by making clear that Section 251(c)(2) of the Act permits competitors to establish IP interconnection arrangements with ILECs for the exchange of voice traffic. In so doing, the Commission can affirm the continued application of a pro-competitive network interconnection regime that has fostered competitive entry and growth over the last fifteen years. Notably, this action does not require the immediate development of new rules and regulations applicable to such IP interconnection arrangements. Instead, because current interconnection and traffic exchange regulations are framed in a technology neutral fashion, they can be applied to IP interconnection arrangements in the same way they are applied to today's TDM-based interconnection arrangements.

Upon affirmation of the basic statutory right to establish IP interconnection arrangements, the Commission can then turn to consideration of whether it should modify key network architecture rules. Most significantly, the Commission should reconsider the continued utility of LATA-based boundaries in defining point of interconnection ("POI") obligations of interconnected providers. Building upon existing law, the Commission should affirm that competitive providers are entitled to establish a single POI per state on the ILEC's network. In conjunction with this policy, the Commission should also define network edge principles in a manner that does not undermine Congress' determination that incumbent LECs must

accommodate competitors' request for interconnection at "any technically feasible point" on the ILEC's network.

Finally, these reforms should be accompanied by a Commission decision that transit traffic (and associated services) is subject to Section 251(c), just like other network interconnection and traffic exchange arrangements. Federal courts and numerous state commissions have already so ruled. However, absent further action from the Commission, competitors will continue to operate under a patchwork set of conditions which vary from state to state. While competition is emerging for transit services in some markets, many mid-sized and small rural markets are served only by the ILEC, and lack any competitive alternatives. As a result, competitors continue to incur significant costs in delivering their traffic to third parties through incumbent tandem switches in these markets. Accordingly, the Commission should affirm that Section 251(c)(2) applies to transit services, and requires that such services be provided at TELRIC rates.

I. THE COMMISSION SHOULD AFFIRM THAT SECTION 251(c)(2) REQUIRES ILECS TO PROVIDE IP-TO-IP INTERCONNECTION

The Commission's Order recognizes the operational and policy benefits associated with IP-to-IP interconnection, and that such arrangements are a "critical" component of the Commission's goal of achieving an all-IP network.[2] Evidence in the record supports this conclusion.

For example, by enhancing the efficient exchange of voice traffic, IP-to-IP interconnection will facilitate the deployment of voice-over-Internet protocol ("VoIP") services in unserved areas. Further, by mandating the availability of such arrangements the Commission will ensure the eventual elimination of existing IP-to-TDM conversion costs. That, in turn, will

[2] *Order and FNPRM* at ¶ 1010.

ultimately reduce the outlay of CAF funds necessary to provide supported voice services.[3]

Significantly, the Commission has recognized that its efforts to promote the development of an all-IP network would be thwarted if ILECs continue to refuse to provide IP-to-IP interconnection arrangements.[4] Accordingly, the question before the Commission now is not whether, but when and how, rights to IP-to-IP interconnection will be clarified and enforced.

A. Section 251(c)(2) Provides the Necessary Authority to Mandate IP-to-IP Interconnection

Section 251(c)(2) of the Communications Act provides sufficient authority for the Commission to mandate the availability of IP-to-IP interconnection. As the Commission recognizes, the language of Section 251 is technology neutral, and its mandates "do not vary based on whether one or both of the interconnecting providers is using TDM, IP, or another technology in their underlying networks."[5] Similarly, nothing in the statute limits a carrier's statutory interconnection obligations to the exchange of ***only*** circuit-switched voice traffic. Indeed, to the contrary, the Commission recognizes that "the interconnection obligations set forth in Section 251(c)(2) apply to packet-switched services as well as circuit-switched services."[6]

An ILEC's duty under Section 251(c)(2) to provide interconnection for "any requesting telecommunications carrier . . . at any technically feasible point within the [ILEC's] network"[7] clearly encompasses IP-to-IP interconnection arrangements. There is no dispute that IP-to-IP interconnection is "technically feasible," as it is commonly used in interconnection arrangements

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[3] *See* Cablevision and Charter Comments on FNPRM CAF Support Issues; WC Docket 10-90, *et. seq*. at 1-2 (filed Jan. 18, 2012).
[4] *Order and FNPRM* at ¶¶ 1009-11.
[5] *Id.* at ¶¶ 1342, 1381.
[6] *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Order on Remand, 15 FCC Rcd 385, ¶ 22 (1999) ("*Advanced Services Order*"), *remanded on other grounds*, *WorldCom, Inc. v. FCC*, 246 F.3d 690 (D.C. Cir. 2001).
[7] 47 U.S.C. § 251(c)(2)(B).

between VoIP service providers today.[8] The largest ILECs, including AT&T, Verizon and CenturyLink, have themselves acknowledged they could readily accommodate IP-to-IP interconnection, thereby dispelling any assertion that such interconnection arrangements are not technically feasible.[9] And the Commission recognizes that Congress intended that ILECs "must accept the novel use of, and modification to, its network facilities to accommodate the interconnector."[10]

Furthermore, Section 251(c)(2) requires ILECs to provide interconnection "for the transmission and routing of telephone exchange service and exchange access."[11] The record in related proceedings demonstrates that the provision of VoIP service constitutes "telephone exchange service" or "exchange access" regardless of whether VoIP is classified as an information service or a telecommunications service.[12] The Communications Act defines the term "telephone exchange service" as "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

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[8] *See* Cablevision and Charter Comments; WC Docket No. 11-119 at 6 (filed Aug. 15, 2011) (citing David Sims, *Voice Peering Report Considers Future of Telecom Network Interconnection*, TMCNET.COM (July 18, 2011), *at* http://www.tmcnet.com/channels/voice-peering/articles/198152-voice-peering-report-considers-future-telecom-network-interconnection.htm (describing a report that "analyzes the VoIP peering strategies of eight leading VoIP service providers" and describes "VoIP peering" as "enabl[ing] direct network interconnection without using the PSTN"). Note that the peering arrangements cited here demonstrate that IP-to-IP interconnection arrangements are technically feasible. However, Charter is not suggesting that the Commission regulate such arrangements or that such arrangements between competitors are sufficient for CLEC – ILEC IP interconnection arrangements.

[9] *See, e.g., Order and FNPRM* at ¶ 1388 (noting the existence of IP service offerings of incumbent LECs and their affiliates); *see also* Comments of AT&T, Inc., WC Docket No. 10-90, at 24-25 (filed Apr. 18, 2011) (describing "the marketplace for transit and peering services" for VoIP to be "robustly healthy"); Comments of CenturyLink, WC Docket No. 10-90, at 72 (filed Apr. 18, 2011) (discussing the "the current compensation schemes that govern interexchange of all-IP traffic").

[10] *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, 11 FCC Rcd 15499 ¶ 202 (1996). *See also, id.* ¶ 206 ("[T]he Act does not permit incumbent LECs to deny interconnection . . . for any reason other than a showing that it is not technically feasible.").

[11] 47 U.S.C. § 251(c)(2)(A).

[12] *See* Cablevision and Charter Comments; WC Docket No. 11-119 at 9 (filed Aug. 15, 2011).

exchange, and which is covered by the exchange service charge."[13] Although the Commission has suggested that this term is a subset of "telecommunications service," there is no textual basis for such a conclusion.[14]

To the contrary, the Commission has previously held that the term "telephone exchange service" is not limited to circuit-switched technology, and applies equally to packet-switched services.[15] And at least one court has agreed: "[I]t is clear that the FCC does not intend to limit telephone exchange service to traditional telephone services or technologies."[16]

The same principles apply to exchange access service, a service provided to other carriers defined by the Act as the "origination or termination of telephone toll services."[17] As the Second Circuit has held, this service is defined by the geographic end points of the call, and does not turn on how the calls are priced, or the technology used.[18] CLECs that carry VoIP traffic – whether to their own customers or to VoIP providers – are clearly providing IXCs with the ability to place calls to, and receive calls from, retail VoIP customers in other telephone exchanges. That basic functionality clearly satisfies the statutory definition of exchange access service – and hence the interconnection criteria under Section 251(c)(2).

Additionally, regardless whether VoIP is itself "telephone exchange service and exchange access," Section 251(c)(2) ***does not limit*** the use of the interconnection to those

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[13] 47 U.S.C. § 153(47)(A).

[14] Although some ILECs argue that VoIP service providers cannot obtain interconnection under Section 251(c)(2) because the provision of retail VoIP service is not a telecommunications service, that argument fails as a matter of law and policy. Indeed, as networks increasingly shift to use VoIP technology, this logic – if accepted – would eventually erode interconnection rights under Section 251entirely as more carriers rely on IP networks to carry their voice traffic which cannot be the intent of the Telecommunications Act of 1996.

[15] *Advanced Services Order* at ¶ 22; *see also Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Order on Remand, 15 FCC 385 at ¶ 22 (1999) ("*Advanced Services Remand Order*").

[16] *BellSouth Telecomm. Inc. v. Finley*, 2010 U.S. Dist. LEXIS 131839 at * 33 (E.D.N.C. Dec. 10, 2010).

[17] 47 U.S.C. § 153(16).

[18] *Global NAPs v. Verizon New England*, 454 F.3d 91, 98 (2nd Cir. 2000).

services.[19] Once a carrier is otherwise entitled to interconnection, it may also use that interconnection arrangement to support other services that would not themselves give a provider interconnection rights.[20] As the Commission has explained in an analogous context, "the fact that a telecommunications carrier is also providing a non-telecommunications service is not dispositive of its rights."[21]

Finally, the nondiscrimination principles codified in Section 251(c)(2) require ILECs to provide interconnection "that is at least equal in quality to that provided to itself or any subsidiary [or] affiliate."[22] The record reflects that many ILECs currently provide IP-to-IP interconnection internally or to subsidiaries or affiliates.[23] Accordingly, because ILECs maintain IP interconnection arrangements today for their own (or their affiliates') use, the statute compels those entities to provide such arrangements under 251(c)(2).[24]

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[19] The Commission should limit the application of IP interconnection mandates to voice traffic.

[20] Section 251(c)(2) applies so long as the *ILEC* is providing telephone exchange service or exchange access using communications routed through the interconnection. The plain language of the statute requires only that the interconnection be "for the transmission and routing of telephone exchange service." It does not require the *requesting carrier*, rather than the ILEC, be the one providing those services. Therefore, the ILECs' obligations also apply when the requesting carrier seeks interconnection in order to make available to its subscribers *the ILEC's* telephone exchange service or exchange access. The FCC previously suggested just such an interpretation when it held that because it had determined certain ILEC services to be telephone exchange service or exchange access, "incumbent LECs must provide requesting carriers with interconnection pursuant to Section 251(c)(2)" with respect to those services. The same logic applies to carriers transmitting VoIP traffic. *See, e.g.,* Cablevision and Charter Comments, WC Docket 11-119 at 12-13 (filed Aug. 15, 2011).

[21] *Time Warner Cable Request for Declaratory Ruling that Competitive Local Exchange Carriers May Obtain Interconnection Under Section 251 if the Communications Act of 1934, as Amended, to Provide Wholesale Telecommunications Services to VoIP Providers*, Memorandum Opinion and Order, 22 FCC Rcd 3513, n. 39 (2007).

[22] 47 U.S.C. § 251(c)(2).

[23] *See, e.g.,* Comments of COMPTEL, WC Docket No. 10-90 at 7 (filed Apr. 18, 2011) (citing evidence that "[t]he 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").

[24] As Charter has explained in prior comments, the Commission has extended various other provisions of Title II to VoIP without addressing the regulatory classification question, and can do the same here without formally classifying VoIP as telecommunications or an information service. The classification of VoIP as a telecommunications service has potentially sweeping regulatory and jurisdictional implications. Such a fundamental policy determination, aside from being unwise, is not necessary in order to confirm the availability of IP-to-IP interconnection for VoIP traffic. Cablevision and Charter Reply Comments, WC Docket 11-119 at 5-6 (filed Aug. 30, 2011).

B. The Commission Should Look to Current Regulations as the Basis for Identifying Issues to Address in Any New IP Interconnection Regime

1. *The Commission Should Affirm that Current Network Interconnection Rules and Principles Apply to IP Interconnection Arrangements*

The Commission can facilitate the transition to all IP-networks by first affirming that the ***current*** network interconnection rules of Section 251(c)(2) and FCC regulations apply to IP-to-IP interconnection. These rules have played a key role in the development of a competitive voice market across a variety of technology platforms (wireline, wireless, and cable). Those principles include: (1) the basic right to interconnect; (2) at any technically feasible point; (3) on just and reasonable terms at; (4) at cost-based rates. These core principles have provided the means for competitive voice providers of all kinds (CLECs, VoIP, and CMRS providers) to compete in virtually every market in the country.[25] Section 251 and FCC regulations have aided competitive entry because these rules are (largely) technology agnostic, and reflect the fact that Section 251 mandates interconnection pursuant to pro-competitive ***principles***, rather than specific proscriptive rules.[26] These principles and can be applied to IP-based networks just as they have been applied to TDM-based networks, and their application to IP-based networks will provide operational certainty for next generation voice providers. Although certain rule modifications may be in order, including those described elsewhere in this pleading,[27] this approach obviates the need for wholesale revisions to existing rules and eliminates the need for

[25] *See, e.g.*, FCC LOCAL TELEPHONE COMPETITION REPORT, WCB, at 1 (rel. Oct. 2011) ("… the use of VoIP technology is growing rapidly and it is increasingly used to provide local telephone service."); *see also*, p. 31 (map showing VoIP competitors by state as of December 31, 2010), *and* Table 8 at p. 19 (identifying total end user switched access lines and VoIP subscribers by state). Recognizing the important role that interconnection plays in fostering competition, the FCC has established rules that permit competitors to obtain any "technically feasible method of interconnection" with ILECs, "at any particular point upon request." *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, First Report and Order, 11 FCC Rcd 15499, ¶ 553 (1996) ("*Local Competition Order*").

[26] For example, the statute defines a competitors' right to interconnect with an incumbent's network at "any technically feasible point" on the network, rather than at specifically designated location(s). Also, the statute requires that such interconnection be subject to nondiscriminatory treatment at just, reasonable cost-based rates.

[27] *See* Section II, *infra*, at p. 10.

new rulemakings, proceedings or contested cases concerning potential new rules for interconnection of IP networks.

2. *Costs of IP-TDM Conversion*

In conjunction with its decision to affirm the application of existing network interconnection principles to IP networks, the Commission should establish a rule providing that the costs of any continued IP to TDM conversion must be borne by ILECs that choose to continue to utilize TDM-based technology.

The record shows that ILECs' refusal to provide IP-to-IP interconnection allows them to shift to competitors part of the costs associated with the ILECs' maintenance of legacy TDM networks.[28] That, in turn, reduces any incentives the ILECs may have to convert their legacy networks into more efficient IP networks.[29] The Commission's proposed cost conversion rule[30] is therefore necessary to ensure that ILECs which refuse to provide IP interconnection arrangements do not benefit financially from their failure to accommodate such arrangements.[31]

Of course, some ILECs will argue that requiring incumbents to provide IP-to-IP interconnection under Section 251(c)(2) would be unfair as it will shift the costs of IP/TDM conversion to incumbents. But such an outcome, in fact, furthers the Commission's stated goals of promoting the deployment of advanced communications networks by increasing incentives to eliminate costs associated with TDM conversion. Moreover, the fact that ILECs require more efficient carriers to bear the burden of TDM conversion penalizes efficiency and provides disincentives for ILECs to transition to all IP networks.

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[28] *See* Cablevision and Charter Comments on FNPRM CAF Support Issues; WC Docket 10-90, *et. seq*. at 3 (filed Jan. 18, 2012).
[29] *Id*.
[30] *Order and FNPRM* at ¶ 1341.
[31] Similarly, the ILECs should not be permitted to shift their costs of any necessary network upgrades arising from this Commission decision to competitive providers.

II. THE COMMISSION MUST PRESERVE, AND ADAPT, FUNDAMENTAL INTERCONNECTION RIGHTS GOING FORWARD

The Commission recognizes that the implementation of a bill-and-keep regime raises important questions concerning rules governing network interconnection and related issues.[32] In particular, the Commission notes that questions regarding the establishment of minimum points of interconnection (POIs) and defining the network edge must be resolved.

A. Points of Interconnection

The Commission properly recognizes that Section 251(c)(2)(B) establishes a general rule with respect to interconnection points between incumbent and competitive provider networks. Specifically, the statute requires an ILEC to permit a requesting telecommunications carrier to interconnect at any technically feasible point on the ILEC's network, including at a ***single*** point of interconnection ("POI") per LATA.[33] This rule, and several other rules stemming from the principles of Section 251(c), must be preserved under the new bill-and-keep end state. Affirmation of this principle under a fully implemented bill-and-keep regime will ensure that providers can utilize the most efficient network interconnection architectures to reduce operational costs and maximize network assets.[34]

Further, in affirming the application of the so-called "single POI" rule, the Commission should consider modifying the rule to reflect the realities of today's communications networks. Specifically, to further enhance competition and increase incentives to deploy all-IP networks, the Commission should modify the single POI rule in a manner that reflects technological

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[32] *Order and FNPRM* at ¶ 1315.
[33] *Id*. at ¶ 1316.
[34] As this Commission has recognized, "Congress intended to obligate the incumbent [LEC] to accommodate the new entrant's network architecture" and that the ILEC "must accept the novel use of, and modification to, its network facilities to accommodate the interconnector." *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, 11 FCC Rcd 15499 ¶ 202 (1996). *See also, id*. ¶ 206 ("[T]he Act does not permit incumbent LECs to deny interconnection . . . for any reason other than a showing that it is not technically feasible.").

developments which allow service providers to aggregate and transport greater amounts of traffic on their networks. In particular, the Commission should modify the rule to permit competitive LECs to interconnect at a single POI per state. As carriers continue to deploy IP-based network assets, and the costs of transport continue to decline, further efficiencies can be achieved by consolidating interconnection points within a single state, or even a multi-state metropolitan region. For example, carriers operating in Illinois and serving Chicago, and surrounding markets, may choose to establish a single POI to carry all traffic in Illinois and other traffic to, or from, northern Indiana.

As other commenters have explained, there is no rational basis for continuing the application of the single POI rule on a LATA-wide basis, or based on other artificial distinctions.[35] Instead, the interconnection of networks and exchange of traffic should occur at the point which allows for the greatest network efficiencies.

Similarly, the Commission should reject proposals to require the use of multiple POIs based upon traffic volumes, or other similar limitations. For example, some ILECs that use traffic volumes to dictate the number of POIs fail to recognize that IP-based networks are scalable, can transport very high volumes of traffic, and permit the aggregation of traffic at levels above that which was technically feasible in the past.[36] Their proposal, if accepted, simply increases network deployment costs for competitors while eliminating the inherent efficiencies of scalable, high-capacity IP networks.[37]

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[35] *See, e.g.*, Sprint Nextel *Ex Parte*, WC Docket 10-90, *et. seq*. at 8 (filed July 29, 2011).
[36] *See, e.g.*, *Order and FNPRM* at 1318 (noting CenturyLink's proposal to use traffic volumes to dictate number, and location, of POIs).
[37] The proposal also ignores the fact that a single POI per state, or region, is technically feasible.

The Commission also questions the application of a single POI rule to rural carriers, some of whom may not be subject to Section 251(c).[38] Specifically, the Commission seeks additional information about the nature of interconnection agreements with rurals today. Charter applauds the Commission for focusing on these issues, and addressing the important interconnection issues associated with serving rural and less-densely populated markets.

Charter's network serves many of those rural and less-densely populated areas. As a result, Charter must interconnect directly, or indirectly, with each of the many rural carriers operating in each of these markets. The vast majority of Charter's interconnection agreements (which includes traffic exchange agreements for the exchange of extended local traffic) with rural carriers are the result of negotiations governed by Section 251 and 252 principles.[39] Charter also utilizes indirect interconnection arrangements to exchange traffic with rural carriers, but such arrangements are usually only available when the traffic volume is very low.[40]

Charter's experience with these rural ILECs illustrates some of the inherent challenges associated with serving these areas. Those challenges are even more significant when the rural ILEC operates multiple subsidiaries in a particular state, and then requires Charter (and other competitors) to obtain interconnection agreements with each subsidiary. Instead, CLECs should be allowed to interconnect their network at one POI within a state to exchange traffic with each of the ILEC's affiliates located in that state, provided the rural ILEC's networks in that state are interconnected for any reason.[41]

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[38] *Order and FNPRM* at ¶ 1317.

[39] These agreements are obtained through both the negotiation/arbitration and adoption processes available under Section 252.

[40] For example, many agreements state that indirect interconnection may only be used for traffic that does not exceed a single DS1 of volume, over a three month period.

[41] Further, if the ILEC's affiliates are interconnected to exchange toll traffic, or for any other reason, they should be required to allow CLECs to exchange local traffic over separate trunks.

Some LECs use this organizational structure (of maintaining multiple affiliates in one state) to increase operational and administrative costs for competitors interconnecting with such entities, and requiring interconnection with each subsidiary, even though all subsidiaries are owned and controlled by the same parent company. The Commission can eliminate this problem simply by affirming that the single POI rule applies to ILECs with multiple operating entities in the same state.[42]

B. Network Edge Principles

The Commission tentatively concludes that a critical aspect of an effective bill-and-keep regime is properly defining the location, and parameters, of a so-called network "edge."[43] Under a bill-and-keep regime, the edge will define transport and interconnection obligations of two interconnected carriers exchanging traffic, and will serve as the demarcation point for each carrier's obligation to deliver traffic to the other carrier.[44] The Commission concludes that state commissions will be responsible for establishing network edge rules pursuant to FCC guidance.[45]

The development of network "edge" proposals must not improperly favor incumbents. Prior edge proposals were seen by many as inequitable and would have discouraged forward-looking, efficient network interconnection arrangements. To avoid similar problems, the Commission must ensure that any network edge rules include several key principles. First, edge rules must recognize and reflect the guiding principles of Section 251(c), including: the right to direct interconnection with any telecommunications carrier; at any technically feasible point on

[42] This principle should be applied to all incumbent LECs, unless otherwise exempt from the duties of Section 251(c). Of course, small rural ILECs operating with only a single entity in any particular state would not be affected by the proposed rule change. . The economics of traffic exchange using single POI arrangements is consistent with the policy rationale for bill and keep because each carrier is forced to recover its own network costs from its own end users, not other carriers. This mandate should be imposed immediately.
[43] *Order and FNPRM* at ¶ 1320.
[44] *Id*.
[45] *Id*.

the network, including at a ***single*** point on the incumbent's network; at cost-based rates (if any).[46]

Second, any new edge rules cannot favor the continued use of hierarchical, circuit-switched networks, but must instead recognize the implementation of soft switches, and distributed switching architectures, used in IP-based networks. Failure to recognize the importance of this principle could undermine the Commission's goal of accelerating the deployment of all-IP networks. Accordingly, adoption of a "competitively neutral" location must not undermine existing interconnection rights. Prior rulings on this issue recognize that incumbents have incentives to manipulate network interconnection arrangements in order to increase competitors' costs of entry and network deployment. To avoid the same problems, a competitively neutral edge location should be technology, or platform, agnostic and recognize that carriers have network components (i.e., media gateways, or trunking media gateways) that differ from incumbent networks but which perform the same essential functions. Further, a competitively neutral location must include a location where competitors have competitive alternatives, other than the incumbent, to transport traffic to the terminating carrier's network.

Third, the Commission should establish default rules regarding competitively neutral locations, which the parties can modify only upon mutual agreement. The use of default rules intended to support competitive entry and network deployment is a useful mechanism for ensuring that incumbent LECs don't use their market power, or incumbent status, to improperly raise competitors' costs, or slow the deployment of all IP networks.[47]

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[46] Consistent with other arguments herein, this obligation should apply to ILECs that operate multiple affiliates in a single state such that competitors need only establish a single POI with the ILEC's affiliates in that state.

[47] Alternatively, the Commission should consider whether a network "edge" paradigm is appropriate given the ubiquity of modern networks, and the declining marginal costs of transport. Given the network topology and geographic reach of today's networks, including the fact that these networks consist of cores (routers / switches) and "tentacles" (loops or other last mile connections), is the notion of a network "edge" a false premise? Because modern networks overlay one another to a great extent, and do not exist solely in adjacent geographic areas, there

III. THE COMMISSION MUST TRANSITION OTHER RATE ELEMENTS TO BILL AND KEEP TO ENSURE RATE PARITY AND ELIMINATE OPPORTUNITIES FOR ARBITRAGE

A. *All Transport Rate Elements Should be Subject to Bill and Keep*

The Commission did not address the transition for all transport charges, leaving open the question of the appropriate transition for tandem switching and transport charges in those areas where the price cap carrier does not own the tandem in the serving area.[48]

All of these transport rate elements must be transitioned to a bill-and-keep end state, consistent with the treatment of end office switching rate elements under the Order. There is no basis in the record, or otherwise, for continuing the application of these transport charges beyond the current transition period. Accordingly, all tandem switching and transport rates should be reduced at a pace that coincides with the current schedule for transitioning end office switching rates.

If these transport rates remain in place after bill and keep is fully implemented for end office rate elements, opportunities for arbitrage or improper cost-shifting will likely arise. For example, ILECs will have incentives to shift costs from end office functions to transport and tandem switching functions in order to increase competitive carriers' traffic exchange costs. Absent further action from the Commission to reduce all transport rate elements to bill and keep, within the same timeframe as terminating end office switching rates, ILECs will have the opportunity to raise rivals' costs and charge rates above the incremental costs of transmission.

No evidence in the record suggests that the reduction of these remaining transport rates

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are many potential points at which two parties can interconnect for the exchange of traffic. Any point at which the two networks overlay one another is, in theory, a technically feasible point of interconnection. That point of interconnection may be the most efficient point of interconnection and traffic exchange, regardless of the location of either provider's network "edge." Further, because the marginal costs of additional transport are very low (some would say close to zero) transport of traffic should not dictate interconnection policy. Instead, the primary question should be what is the most efficient point for the two providers to interconnect their networks for the exchange of traffic?

[48] *Order and FNPRM* at ¶¶ 1306-10.

merits a special exception to the Commission's conclusion that carriers look to their customers, rather than other carriers, to pay for the costs of carrying calls on its network. On top of these concerns is the fact that transport rate elements appear to have little rational relation to the incremental cost of transporting traffic on these networks.

B. *Transit Rate Elements Should be Subject to Similar Treatment as Other Rate Elements and Regulated Under Section 251(c)*

The Commission's sweeping reform of intercarrier compensation touched on nearly all aspects of the existing intercarrier compensation regime. Over the course of the next 6 to 8 years, nearly all rate elements associated with the exchange of traffic will be transitioned to a bill-and-keep arrangement.

However, one aspect of current traffic exchange arrangements was noticeably absent from the scope of reforms: compensation for transit services. The record in the prior proceeding demonstrates that transit costs are a significant operational cost for competitive carriers operating in rural and less densely populated areas.[49] Absent further FCC action on compensation for such services, transit providers will have the opportunity, and incentive, to exploit their ubiquitous network dominance by raising transit service rates on competitors like Charter.

The record in the prior proceeding reveals that there is no independent, verifiable market data demonstrating that the market for transit services is competitive in all markets.[50] Until the market for such services is fully competitive, as demonstrated by independent verifiable data, the Commission must affirm that incumbent LECs must provide transit services pursuant to Section 251. That statute provides sufficient legal authority for the Commission to direct incumbent LECs to provide transit services under just and reasonable terms in accordance with 251(c) interconnection obligations. Finally, the application of TELRIC-based rates to transit obligations

[49] *See* Charter Reply Comments, WC Docket 10-90, *et. seq*., at 16 (filed May 23, 2011).
[50] *Id*. at 10-12.

is consistent with Commission precedent, and will ensure that unreasonably high transit rates do not undermine the Commission's attempts to unify and reduce intercarrier compensation rates.

1. *Because the Market for Transit Services Is Not Competitive in All Areas of the Country, the Commission Must Assert Its Jurisdiction Over Transit Services and Establish a Uniform Rule*

The Commission asks whether the transit market "demonstrates the hallmarks of a competitive market."[51] Evidence in the record demonstrates that transit services may "demonstrate the hallmarks" of a competitive service in ***some*** large markets, but such services are not competitive in ***all*** markets, or for ***all*** ILEC networks, across the nation. Although a small number of entities offer transit service in competition with the ILECs, such services do not exist in ***every*** market in which competitors operate. As such, while there may be ***some*** competition in larger and mid-sized markets that is not true in smaller, rural and less densely populated markets.

More significantly, one provider of transit services, Neutral Tandem, acknowledged in its 2010 annual report that the company is "unable to provide accurate market share information," concerning the scope of competition because "no regulatory body or industry association requires carriers to identify amounts of voice traffic to other carrier types."[52] Hence, mere anecdotal evidence of the scope of competition in the transit market must be weighed against the fact that the leading competitive provider of transit services admits that there is ***no independent verifiable data*** concerning the scope of competitive transit services.[53]

Neutral Tandem has also argued that the number of markets it serves "demonstrates the existence of robust competition" in the transit services market. However, Charter and other

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[51] *Order and FNPRM* at ¶ 1313.

[52] *See* Neutral Tandem, Inc. 2010 Form 10-K Annual Report at 8 (for period ending 12/31/10), (available at: http://www.neutraltandem.com/investorRelations/index.htm) (emphasis added). The company explained that such information does not exist, in part because no regulatory body or industry association requires carriers to identify the amounts of voice traffic delivered to other carrier types, or compiles market data regarding such arrangements.

[53] This may explain why, of the more than one hundred and seventy parties filing comments to the NPRM in WC Docket 10-90, only one party, Neutral Tandem, asserts that the market for transit services is "competitive."

market participants have demonstrated that such assertions are misleading and exaggerated. For example, Neutral Tandem's claims to have connections to "more than 100 of the largest national and regional telecommunications carriers" actually reveals that the company has connections to only eight (8%) percent of all incumbent LECs operating in the nation.[54]

Further, as Charter explained in prior comments, because competitive transit providers do not have ubiquitous network coverage (like the incumbent LECs) in smaller, rural markets, Charter is often forced to obtain transit services through the incumbent LECs in these markets. The limited availability of competitive transit services in these smaller, rural markets reveals that assertions regarding the competitive nature of these services are misleading. For example, Neutral Tandem asserts that it provides service in the majority of LATAs across the nation. Although that may be true, it does not mean the company has connections to ***each*** of the ILECs (rural or otherwise) that may serve one of the thousands of communities in any particular LATA. Because LATAs are generally large geographic areas, and in some states one LATA covers virtually the entire state (e.g., Mississippi, New Mexico, Utah and Wyoming), simply having a connection within that LATA does not demonstrate that the company offers ubiquitous competitive transit services in all markets within the LATA.

In fact, as Charter explained in prior comments, while some markets may have one or more competitive transit provider offering service, many smaller Tier 2 or Tier 3 rural markets do not have a second transit provider.[55] So the question of whether, and where, competition may exist is one which should be addressed on a more granular basis, preferably on a market-by-market basis, over time.

The lack of any independent verifiable data reflecting actual levels of competition in the

[54] *See Charter Ex Parte*, WC Docket 10-90, *et. seq*. at 2 (filed Oct. 21, 2011).
[55] Charter Comments, WC Docket 10-90, *et. seq*. at 10 (filed Apr. 18, 2011).

market at this time supports the comments filed by those parties asserting that the Commission must affirm transit as a Section 251(c) obligation. Although a number of states, and now two federal courts, have affirmed that incumbent LECs are obligated to provide transit pursuant to Section 251(c), the lack of a clear ***national*** mandate forces competitors to operate under a patchwork of rules that vary from state to state.[56]

Finally, if the market for competitive transit services develops in the future, such that many of the individual markets are truly competitive, the Commission can use its forbearance authority to remove unnecessary regulations in those particular markets.[57] The forbearance process provides a useful mechanism for the Commission (and interested providers) to review relevant data, on a market-by-market basis, to ensure that transit providers are not burdened with unnecessary regulations if discrete regional markets for those services are one day fully competitive.[58]

2. *The Commission Should Follow the Rulings of Several Federal Courts and Find That Section 251 Obligations Extend to Transit Services*

The Commission also asks what legal framework is appropriate for the regulation of transit services.[59] This question has been raised, and resolved, in a number of other forums. Notably, two federal courts[60] and numerous state Commission have all found that transit services

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[56] For example, favorable state rulings allow competitors like Charter to obtain transit services from AT&T in Arkansas and Texas (for example), but the lack of similar rulings in neighboring states, such as Oklahoma or Louisiana leaves competitors without recourse in those jurisdictions. The Commission can remedy this problem by affirming that incumbent LECs have transit obligations under Section 251(c) on a national basis.

[57] That approach is consistent with the FCC's approach for analyzing competitive issues surrounding unbundling obligations of incumbent LECs. *See Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Omaha Metropolitan Statistical Area*, Memorandum Opinion and Order, 20 FCC Rcd 19415 at ¶ 57 (2005) ("*Omaha Forbearance Order*").

[58] *See id*. at ¶ 13.

[59] *Order and FNPRM* at ¶ 1313.

[60] *See Southern New England Tel. Co. d/b/a AT&T Connecticut v. Anthony J. Perlermino, et. al.*, No. 3:09-cv-1787, 2011 U.S. Dist. LEXIS 48773 at * 8 (Dist. Ct. May 6, 2011) ("… the 1996 Act and its attendant regulations should be interpreted so as to promote competition.") ("*SNET*")*; and, Qwest v. Cox Nebraska Telecom, LLC*, 2008 U.S. Dist. LEXIS 102032 (D. Neb. 2008).

are governed by Section 251(c).[61]

Federal courts in Connecticut and Nebraska affirmed state commission determinations that all ILECs have the obligation to provide transit under Section 251(c)(2), as a matter of law. Further, the federal court in Connecticut recognized that any other decision would undermine the purpose and intent of the statute: to promote competition.[62] The Connecticut federal court's decision implicitly recognizes that mandating transit obligations under Section 251(c) is good public policy. Similarly, this Commission has recognized that the availability of transit arrangements ensures that competitors can deploy efficient network and traffic exchange arrangements, rather than be forced to construct duplicative or redundant infrastructure in order to exchange traffic with third-party providers.[63]

Finally, as other commenting parties have also explained, Section 251(c)(2) requires ILECs to interconnect with any requesting telecommunications carrier "for the transmission and routing of telephone exchange service and exchange access."[64] The traffic referenced in this statute is not limited to traffic related to the ILECs' own customers, and can clearly be read to include third-party provider's traffic that arises in a transit situation. As such, nothing in that statute limits the scope of an ILEC's obligation, or precludes the reasonable conclusion that transit traffic is covered under this statute.

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[61] *See, e.g.*, Charter Comments, WC Docket 10-90, *et. seq*. at 11-12 (citing Nebraska federal district court decision, and state PSC cases affirming transit obligations).

[62] *See SNET*, 2011 U.S. Dist. LEXIS 48773 at * 8 ("… the 1996 Act and its attendant regulations should be interpreted so as to promote competition.") (citing *Mich. Bell Telephone Co. v. Covad Communs. Co*., 597 F.3d 370, 387 (6th Cir. 2010)). The District Court of Connecticut also relied upon the reasoning and conclusions of the District Court of Nebraska, which has also ruled that transit obligations arise from Section 251, as a matter of law. *See, e.g.*, *Qwest v. Cox Nebraska Telecom, LLC*, 2008 U.S. Dist. LEXIS 102032 (D. Neb. 2008).

[63] *See In the Matter of Developing A Unified Intercarrier Compensation Regime*, Notice of Proposed Rulemaking, 20 FCC Rcd 4685 at ¶ 125 (2005) ("Without the continued availability of transit service, carriers that are indirectly interconnected may have no efficient means by which to route traffic between their respective networks.").

[64] *See* Level 3 Communications LLC Comments at 19-21.

3. *Transit Rates Should be Subject to TELRIC Pricing Principles*

Because Section 251(c)(2) does extend to transit services, the Commission is duty bound to affirm that TELRIC pricing principles apply to such services. Interconnection obligations arising under Section 251(c)(2) are, of course, subject to the pricing standards of Section 252(d)(1)(A). The Supreme Court has affirmed this Commission's determination that the appropriate pricing standard under this section of the statute is TELRIC, and that TELRIC-based rates permit ILECs reasonable cost recovery.[65] For that reason, application of TELRIC rates would ensure that ILECs are "adequately compensated" for the use of their networks. Given that transit is covered by Section 251(c)(2), it is subject to the same pricing standard applicable to all other interconnection related services: TELRIC.

More significantly, it would be a significant mistake for the Commission to ignore TELRIC pricing principles while attempting to unify and reduce other call transport and termination rates. The Commission's decision to unify and reduce nearly all call transport and termination rates represents a major step towards rationalizing today's intercarrier compensation system. However, in so doing, the Commission cannot ignore the fact that transit rates are a significant component of many provider's total transport and termination costs.

Because many competitive providers of wireline, wireless and VoIP services utilize transit arrangements to exchange traffic with other providers, these providers must pay the tandem provider for providing the transit functionality. That functionality permits providers to deliver their originating traffic to terminating providers more cost effectively than being forced to establish a direct interconnection with hundreds, if not thousands, of other ILECs, CLECs and wireless providers throughout the country, and in this way serves as an essential component of enhancing competitive voice communications. Consequently, in addition to transport and

[65] *Verizon Commus., Inc. v. FCC*, 535 U.S. 467, 507 (2002).

termination fees, many competitive providers also incur transit costs as a component of their intercarrier compensation costs.

If the Commission leaves transit rates unregulated, the LECs -- which continue to dominate this market -- would have largely unrestrained power to price transit services at rates far exceeding TELRIC. As a result, even where the Commission's terminating rate reduction policies were implemented, competitive providers would still likely face higher transit costs that would vary across jurisdictions (depending upon which incumbent LEC serves that particular market). Rational policymaking requires the FCC to set these rates on a national basis at forward-looking costs consistent with its nascent policy to unify and reduce per-minute charges. Reducing transport and termination rates, while leaving intermediate transit functions unregulated, would (i) simply perpetuate the rate arbitrage opportunities the Commission seeks to eliminate, (ii) create a bottleneck one step higher in the network (at the tandem), and (iii) empower transit providers to assess higher charges without restraint.

IV. CONCLUSION

For the foregoing reasons, the Commission should adopt the policies outlined in these comments, including the imposition of IP-to-IP interconnection rights under Section 251(c)(2); affirmation of the application of that statute to transit services; and the development of a single POI rule and other related network interconnection architecture rules which reflect current, and future, network technology.

Respectfully Submitted,

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