

Before the  
**Federal Communications Commission**  
Washington, DC 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
	)	

**Reply Comments of Cox Communications, Inc. on Sections XVII.L-R**

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## SUMMARY

Cox supports the Commission's continuing efforts to address intercarrier compensation and interconnection issues as the transition to Internet Protocol ("IP") interconnection proceeds.

*IP Interconnection.* As a competitive voice service provider, Cox relies on its rights under Sections 251 and 252 of the Communications Act, and will continue to need those rights during the transition to IP interconnection. To that end, the Commission should follow its own precedent, which applies Sections 251 and 252 to interconnection between competitive carriers and incumbents regardless of the regulatory classification of the service provided to the end user and regardless of the technology used. While technology changes, the rights and obligations created by Section 251 and 252 do not. The Commission, therefore, should reject arguments from commenters that ask it to ignore the law.

The Commission also should be skeptical of claims that IP interconnection can be accomplished without oversight. The history of interconnection between incumbents and competitors and the resistance of incumbent LECs to providing interconnection on fair and reasonable terms and conditions, combined with their continued market power in voice telephone service, demonstrate that IP interconnection requirements are necessary to promote competition and investment in IP networks.

As a practical matter, attempting to create a new regulatory model for interconnection would lead to delays in the introduction of new voice services, harming both customers and service providers. Instead, the Commission should adapt the rules to take advantage of the benefits of IP interconnection, such as reducing the number of

required points of interconnection. The Commission should not adopt a specific sunset for traditional interconnection until it can be confident the transition to IP interconnection is nearly complete.

The Commission also need not extend interconnection rights to over-the-top voice over IP services. These services are not covered by Sections 251 and 252 and already receive interconnection through certificated carriers that have Section 251 and 252 rights.

*Transit.* Transit is a critical means of indirect interconnection. Incumbents are required to make transit available as a form of interconnection under Section 251(c), as multiple courts and state regulators have determined. As a form of Section 251(c) interconnection, transit must be made available at cost-based rates.

Arguments claiming that Section 251(c) transit is unnecessary are incorrect. Even the largest competitive transit provider does not reach most of the carriers in the country, which leaves incumbent LECs as the only indispensable link to all other carriers. The lack of a competitive market is confirmed by the above-cost prices that incumbent LECs attempt to charge for transit. Transit obligations also must be technologically neutral, and applicable to both TDM and IP interconnection.

*Originating Access and 8YY Access.* The Commission should ensure that all carriers are subject to symmetrical treatment for originating access. Originating access, unlike terminating access, is subject to competitive pressures, and there is no need to reduce originating access to bill and keep. While 8YY access does not have the same characteristics as originating access, there is no economic or policy reason why carriers whose customers dial 8YY calls should be required to bear the burden of those calls, to the sole benefit of interexchange carriers and their customers.

If the Commission does adopt originating access rules, it should use the same timeline for the transition as it adopted for terminating access. This will ensure that the transition is completed in a timely fashion, will reduce administrative complexity, and will help eliminate arbitrage opportunities.

Finally, if originating access is reduced or eliminated, the Commission should adopt a recovery mechanism to permit carriers to recoup lost revenues. This mechanism should operate in the same way as the access recovery charge. The Commission should not permit incumbent carriers to recover lost originating access revenues from the Connect America Fund, as doing so would limit the funds available for broadband service and give incumbents an unwarranted competitive advantage.

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**Reply Comments of Cox Communications, Inc. on Sections XVII.L-R**

Cox Communications, Inc. (“Cox”), by its attorneys, hereby submits its reply comments on the intercarrier compensation and interconnection issues in the above-referenced proceeding.<sup>1</sup>

**I. Introduction**

Cox supports the Commission’s ongoing efforts to address intercarrier compensation and interconnection issues as the telecommunications industry transitions to the Internet Protocol (“IP”) formatted interconnection of voice services. As a long-time provider of competitive voice services, Cox has continuously invested in bringing the benefits of technological advances to its customers, including the introduction of

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<sup>1</sup> Connect America Fund, *Report and Order and Further Notice of Proposed Rulemaking*, WC Docket No. 10-90 *et al.*, FCC 11-161 (rel. Nov. 18, 2011) (the “*Further Notice*”).

voice over IP technology.<sup>2</sup> In making these investments, Cox, has relied – and continues to rely – on the interconnection rights afforded by the Communications Act of 1934, as amended (the “Act”) so that it can provide the highest quality voice service possible to its customers. Cox thus strongly agrees with those commenters that urge the Commission to recognize that the interconnection obligations created by the Act apply to incumbent local exchange carriers (“ILECs”) regardless of the underlying technology used to interconnect.

To ensure interconnection rights remain intact, Cox urges the Commission to adhere to its precedent that already provides full Section 251 and 252 rights and obligations for interconnection between competitive carriers and incumbents regardless of the regulatory classification of the service provided to the end user.<sup>3</sup> Similarly, the Commission should reject arguments of commenters, such as Verizon and AT&T, that ask the agency to ignore the law and undo years of careful rulemaking, based on the introduction of a new technology that may be used for interconnection. Technology has changed, but ILEC control of the bottlenecks in the Public Switched Telephone Network (“PSTN”) has not changed. Just as importantly, the basic interconnection rights and obligations under the Act have not changed.

While some adaptations of the rules to account for specific differences between Time Division Multiplexing (“TDM”) and IP interconnection may be appropriate, they should be limited and focused on taking advantage of the inherent benefits of IP interconnection – such as the need for fewer points of interconnection than in today’s

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<sup>2</sup> Cox began offering telephone service using circuit-switched technology in 1997 and voice over IP technology in 2003. Today, Cox offers telephone service using both technologies.

<sup>3</sup> See Comments of Time Warner Cable at 6-10.

circuit-switched networks – while still ensuring that IP interconnection is available on reasonable terms and conditions.

With respect to intercarrier compensation, Cox asks the Commission to retain a symmetrical approach to treatment of originating access, both with respect to the charges that apply to traffic and the schedule for reducing originating rates. Though, for 8YY traffic, the Commission should tailor its rules to the characteristics and market of those unique services and create a reasonable transition that is predictable and reduces arbitrage opportunities. Part of that transition should include an access recovery mechanism that addresses reductions in originating access and 8YY revenues, but that does not put additional strain on the Connect America Fund.

**II. The Commission Should Adopt Rules for IP-based Interconnection that Continue to Promote Competition and Investment in Broadband Networks.**

The Commission can and should adopt rules that encourage providers to adopt IP-based technology when it is economically rational.<sup>4</sup> Interconnection rights prevent incumbents from exercising their leverage to unduly limit or extract unfair terms for interconnection, thus stymying competition and ultimately harming consumers. As a bar against anti-competitive conduct, interconnection rights are even more vital as the industry transitions to IP-based networks, and it is critical that the Commission confirm those rights and obligations to promote the continued deployment to more efficient IP-based voice services.

The Commission should reject arguments that attempt to obfuscate the FCC's clear authority to regulate IP interconnection for the provision of telephone exchange service and exchange access service. Incumbents like Verizon and AT&T improperly

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<sup>4</sup> *Further Notice*, ¶ 1335.

argue that a change in technology in the network justifies permitting them to escape their interconnection obligations and repealing interconnection rights for carriers that have implemented IP technology.<sup>5</sup> And despite fatalistic warnings, there is no risk that applying the Act to IP voice interconnection would affect regulation of peering or other Internet arrangements now or in the future.

The Act clearly defines the scope of the Section 251 and 252 interconnection rights. A number of commenters correctly note that Sections 251 and 252 already provide for such interconnection rights because the requirements of those sections are technology neutral and do not depend on the type or classification of end user service that is supported by the interconnection.<sup>6</sup> Competitive local exchange carriers (“CLECs”) such as Cox and other cable providers generally invoke Section 251 and 252 rights to provide managed interconnected voice over IP services.<sup>7</sup> The legal right to interconnection arises when, as the Commission has ruled repeatedly, a CLEC is requesting interconnection under Section 251(c)(2) for the purpose of providing telephone exchange or exchange access service. The policy imperative arises because CLECs that provide managed services require interconnection rights to provide high quality service and access necessary network functions to provide telephone exchange service and exchange access.

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<sup>5</sup> See, e.g., Comments of Verizon and Verizon Wireless at 6-39; Comments of AT&T at 9-50.

<sup>6</sup> See, e.g., Comments of National Cable & Telecommunications Association at 6.

<sup>7</sup> For purposes of these comments, Cox defines “managed IP voice service” as a service that transmits voice and equivalent content over dedicated facilities, that routes and addresses calls using standard NANP numbers and that interconnects with the public switched telephone network, either directly or through an interconnection provider. Services that route traffic via the Internet are not managed IP voice services.

**A. IP Interconnection Requirements are Necessary to Ensure Quality of Service and Access to Critical Features of the PSTN.**

AT&T's and Verizon's arguments against Commission oversight of IP interconnection ignore fundamental differences between the ILEC-controlled architecture of the interconnected PSTN network and the Internet. Specifically, they fail to recognize that the best-efforts Internet model of exchanging traffic cannot guarantee two essential requirements of managed voice over IP traffic: quality of service and access to ILEC-controlled features such as 911 facilities, numbering resources, and routing. These are highly practical reasons for maintaining the Commission's pro-competitive and pro-investment policy of ensuring that CLECs have access to ILEC facilities via interconnection rights.

*Access to ILEC-Controlled Essential Inputs.* Today, incumbent local exchange carriers still control bottleneck facilities – the choke points of the telephone network – that give them the ability and incentive to discriminate against their competitors. This is not just a matter of connections to local telephone customers, but also includes access to emergency facilities, number portability and a host of other elements of voice telephone service.<sup>8</sup> All CLECs interconnecting in IP will continue to require access to the same essential inputs as when they interconnect in TDM.<sup>9</sup>

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<sup>8</sup> While some incumbents argue that the bottleneck does not exist because they are not dominant in voice over IP services, this claim relies entirely on an artificial distinction between voice services provided via TDM and voice services provided via IP. See Comments of CenturyLink at 51. AT&T claims that cable operators have some form of market power in high speed Internet service because of their economies of scale. Comments of AT&T at 4. Even if this claim were correct (which it is not), it has nothing to do with managed voice service, where incumbents still maintain their dominance, and there is no evidence that cable operators could leverage their position in the Internet market to obtain favorable terms for IP voice interconnection. In addition, AT&T's arguments are focused on over-the-top services like Skype and Vonage, and do not address the significant quality of service issues that affect managed landline voice service, including the types of voice service provided by cable operators.

<sup>9</sup> Indeed, in Cox's case, it offers both types of services simultaneously in many markets, without distinguishing between the technologies.

Applying Sections 251 and 252 to IP interconnection by CLECs to support managed interconnected voice over IP services is appropriate because those services route calls to and from the PSTN to specific carriers using North American Numbering Plan (“NANP”) resources, specifically telephone numbers as determined by the Local Exchange Routing Guide (the “LERG”) and location routing numbers in the Number Portability Administration Center (“NPAC”) database. These mechanisms will be necessary for as long as traffic continues to flow on and off the PSTN, as there is no reliable alternative to either the LERG or the NPAC database, and they work only via standard interconnection. AT&T does not address numbering issues under its Internet model for exchanging traffic, even while acknowledging that ENUM is not sufficiently advanced to substitute for the current numbering system.<sup>10</sup>

Applying Section 251 and 252 interconnection rights to requesting CLECs to support managed interconnected voice over IP services also is consistent with the broad approach the Commission has taken to these services over time, which has explicitly imposed on these services many of the obligations that apply to traditional voice service.<sup>11</sup> As Cox noted in its initial comments in the Commission’s *IP-Enabled Services* proceeding, it is appropriate to balance rights and obligations under the rules, and interconnection rights under Sections 251 and 252 are an appropriate balance for the

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<sup>10</sup> Comments of AT&T at 33. This is one reason that the Commission should not consider relying on ENUM as a way to ensure interconnection for IP-based services. ENUM remains in its infancy.

<sup>11</sup> See, e.g., Universal Service Contribution Methodology, *Report and Order and Notice of Proposed Rulemaking*, 21 FCC Rcd 7518, 7544 (2006) (requiring universal service contributions), Telephone Number Requirements for IP-Enabled Services Providers, *Report and Order, Declaratory Ruling, Order on Remand and Notice of Proposed Rulemaking*, 22 FCC Rcd 19531 (requiring compliance with number portability requirements), IP-Enabled Services, 911 Requirements for IP-Enabled Service Providers, *First Report and Order and Further Notice of Proposed Rulemaking*, 20 FCC Rcd 10245 (2005) (requiring provision of E911).

obligations that the Commission has imposed on managed interconnected voice over IP providers.<sup>12</sup>

*Inadequacy of the Internet Model for Exchanging Managed VoIP Traffic.*

Comments by parties like AT&T misunderstand the nature of CLEC-supported managed voice over IP services.<sup>13</sup> AT&T's theory is that exchange of all IP traffic can be governed by commercial terms because Internet service providers have exchanged such data for more than 20 years and existing agreements will meet interconnection needs for managed voice over IP services.<sup>14</sup> While this approach might be suitable for "over-the-top" voice services that do not depend on maintaining the quality of service required by landline residential and business customers, it would be unacceptable for providers of managed, facilities-based services.<sup>15</sup> Managed, interconnected voice over IP service offers real time, full duplex communication that must maintain an expected, predictable and controllable level of service throughout the duration of the communication. This comparatively high level of service quality is best supported via the same types of interconnection – direct or transited – that are used for traditional voice service. These types of interconnection would implicitly limit the number of quality-degrading "hops" (i.e., intermediate exchanges) made during transmission of a call and therefore maximize service quality. AT&T acknowledges, in fact, that the needs of business customers are greater than the needs of customers using Skype or Vonage, yet fails to recognize that

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<sup>12</sup> See Comments of Cox Communications, Inc., WC Docket No. 04-36 (filed May 28, 2004) at 9-16.

<sup>13</sup> Comments of AT&T at 10-16.

<sup>14</sup> *Id.* at 19-20. The agreements AT&T cites are for telepresence services, which do not have all of the characteristics of voice services, such as the need to route calls based on the North American Numbering Plan or the need to have access to E911. Equally important, the videoconferencing agreement plainly is mutually beneficial, and has no negative competitive implications for AT&T. AT&T and other incumbents would have completely different incentives in dealing with their voice service competitors.

<sup>15</sup> Verizon also appears to be focusing on over-the-top providers. See Comments of Verizon at 11 (describing video conferencing services offered via the Internet).

those greater needs also require a higher standard for quality of service than the standard “best efforts” transmission via the Internet.<sup>16</sup>

Equally significant, AT&T’s proposal seems to be based on the theory that current methods of exchanging Internet traffic, which it acknowledges are imperfect, will evolve on their own to a perfected state “in the long run” and as “the industry completes its shift to IP.”<sup>17</sup> It does not explain how that would happen, or even why it is plausible to think it would. AT&T also does not explain how its approach could guarantee a quality of service for managed voice over IP traffic today, while, at the same time, admitting that the Internet model for exchanging traffic is inferior to existing TDM interconnection for maintaining data quality.<sup>18</sup> Without the assurance of quality of service, it is difficult to see why any carrier would choose to switch from TDM to IP for its managed voice service, unless it could be certain of obtaining IP interconnection.<sup>19</sup>

*IP Interconnection Rights Necessary for Competition and Investment.* There is no reason to expect incumbent carriers to offer ensure access to these essential inputs or quality of service on reasonable terms and conditions without the framework established under Sections 251 and 252. In fact, history suggests otherwise. For instance, when SBC offered its “TIPToP” tariff for IP interconnection, the terms under that tariff were considerably less favorable than the terms available to competitive carriers through

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<sup>16</sup> Compare Comments of AT&T at 22 (needs of business customers), 18 (no quality of service standards in exchange of Internet traffic).

<sup>17</sup> *Id.* at 1, 4.

<sup>18</sup> *Id.* at 18-19 (acknowledging that common IP peering and transit arrangements do not provide quality of service or differential packet handling).

<sup>19</sup> In this regard, Verizon’s comments are exactly backwards. Verizon argues that adopting regulations will retard IP interconnection. Comments of Verizon at 4. It is uncertainty that will impede adoption of IP interconnection, as carriers will not know what terms they can receive or how it will be implemented. A known regulatory regime will allow carriers to determine when it is economically beneficial to use IP for interconnection.

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standard interconnection agreements.<sup>20</sup> This is significant because SBC argued at the time that the TIPToP tariff was sufficient to provide for interconnection for voice over IP providers, and that those providers did not need to have Section 251 and 252 rights.<sup>21</sup>

The likelihood of delays in negotiation and of incumbents offering unreasonable terms in the absence of the protections of Sections 251 and 252 only would slow the adoption of the IP technology across the country. Competitors would be reluctant to expend the time and effort necessary to obtain interconnection on unfavorable terms (or on terms less reasonable than TDM-based interconnection). Without the ability to seek arbitration, the assurance of the availability of TELRIC pricing, and reasonable terms for physical interconnection, transaction costs of obtaining IP interconnection would increase significantly and discourage managed voice over IP providers from seeking to obtain interconnection. Indeed, in the absence of the ability to obtain arbitration, there is a significant possibility that the introduction of new services would be delayed or disrupted if incumbent LECs and competitors are unable to reach agreement.

**B. The Commission Has the Necessary Legal Basis to Enforce IP Interconnection Requirements Under Sections 251 and 252.**

**1. Current Law Supports IP Interconnection Requirements.**

In addition to the practical policy reasons for confirming interconnection rights and obligations for IP networks, there is significant legal support. Cox strongly agrees with those commenters who argue that both the Act and Commission precedent support the FCC's legal authority to enforce interconnection rights with respect to IP

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<sup>20</sup> See, e.g., *SBC TIPToP Service Slammed*, Vision 2 Mobile (Jan. 1, 2005) at <http://www.vision2mobile.com/articles/2005/01/sbc-tiptop-service-slammed.aspx>.

<sup>21</sup> See SBC Communications Inc., Tariff FCC No. 73, Transmittal No. 3019 (Nov. 24, 2004) at 1 (indicating purpose of tariff was to “connect traffic from [] IP end users to end users of the Public Switched Telephone Network”).

interconnection.<sup>22</sup> Indeed, under Sections 251 and 252, the Commission can ensure continued interconnection rights for CLECs to support provision of voice services, regardless of the technology used in interconnection or the classification of service provided to the end user.<sup>23</sup>

The *Further Notice* recognizes that the interconnection provisions in the Act are technologically neutral.<sup>24</sup> Nothing in Section 251 or Section 252 requires that the service that is being interconnected be provided using TDM technology or prohibits applying those provisions to technologies other than TDM. In fact, this technology-agnostic approach is consistent with the practice when the Telecommunications Act of 1996 was adopted – providers interconnected using all technologies in place at the time, such as electrical interfaces, optical interfaces, landline and wireless.<sup>25</sup>

The same should be true for IP interconnection. Time Warner Cable has explained the importance of treating direct IP interconnection to incumbent carriers, by certificated carriers, in the same way as TDM interconnection. If a voice over IP provider holds state certification and operates as a common carrier, under Section 251 it

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<sup>22</sup> See, e.g., Comments of National Exchange Carrier Association, Inc., National Telecommunications Cooperative Association, Organization for the Promotion and Advancement of Small Telecommunications Companies and the Western Alliance at 38-40; Comments of Time Warner Cable at 6-8.

<sup>23</sup> It also is important for the Commission to ensure that CLECs that currently are interconnecting with incumbent LECs maintain those rights going forward, regardless of the form of interconnection used or the retail service provided to end users. Given that thousands of interconnection agreements are in place and that tens of millions of customers are served via existing interconnection arrangements, disrupting those arrangements would make no economic sense.

<sup>24</sup> *Further Notice*, ¶ 1342 (“[W]e observe that section 251 of the Act is one of the key provisions specifying interconnection requirements, and that its interconnection requirements are technology neutral – they do not vary based on whether one or both of the interconnecting providers is using TDM, IP, or another technology in their underlying networks.”).

<sup>25</sup> The *Local Competition Order* specifies that both landline competitors and wireless providers are entitled to interconnection under Sections 251 and 252. Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, *First Report and Order*, 11 FCC Rcd 15499, 15998-9 (1996) (“*Local Competition Order*”).

“is entitled to interconnect in its own right.”<sup>26</sup> Once a carrier has interconnection rights, the specific technology used for interconnection does not matter. Further, it would, as Time Warner Cable says “make[] little sense” to require carriers that have a right to interconnection to make unnecessary conversions between IP format and TDM format just to meet the unilateral demands of incumbent LECs.<sup>27</sup> Indeed, the entire point of Section 251(c)(2) is to prevent incumbent LECs from imposing their self-interested whims on competitive LECs.<sup>28</sup>

In its *North Carolina Interconnection Order*, the Commission determined that interconnection rights were available to a CLEC that sought interconnection for the purpose of originating and terminating calls that ultimately were transmitted via Internet Protocol.<sup>29</sup> In that case, the calls were being translated between Internet Protocol and TDM, but the basic principle applies just as well to calls that are interconnected in IP format without unnecessary translations. The *North Carolina Interconnection Order* is particularly important because it demonstrates the distinction between the retail service provided to the end user and the wholesale, carrier-to-carrier interaction required for interconnection.

## **2. Opposing Parties Incorrectly Interpret Existing Precedent.**

Parties claiming that the Commission does not have the legal authority to require interconnection for voice over IP services misinterpret Commission precedent and the

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<sup>26</sup> Comments of Time Warner Cable at 8.

<sup>27</sup> *Id.*

<sup>28</sup> See *Local Competition Order* at 15508 (“An incumbent LEC . . . has the ability to act on its incentive to discourage entry and robust competition . . . Congress addressed these problems in the 1996 Act by mandating that the most significant economic impediments to efficient entry into the monopolized local market must be removed.”).

<sup>29</sup> Time Warner Cable Request for Declaratory Ruling that Competitive Local Exchange Carriers May Obtain Interconnection Under Section 251 of the Communications Act of 1934, as Amended, to Provide Wholesale Telecommunications Services to VoIP Providers, *Memorandum Opinion and Order*, 22 FCC Rcd 3513, 3517 (2007) (the “*North Carolina Interconnection Order*”).

law. For instance, AT&T argues that the Commission's *Vonage* decision precludes the applicability of Section 251 because that order determined that voice over IP service was jurisdictionally interstate.<sup>30</sup> The Commission did not, however, determine either that the *Vonage* service at issue in that case was a long distance service or that all voice over IP service was jurisdictionally interstate.<sup>31</sup> In fact, since the *Vonage* decision, the Commission specifically has recognized that voice over IP service can have an intrastate component.<sup>32</sup>

Additionally, Verizon argues that voice over IP services are information services and therefore not entitled to interconnection rights.<sup>33</sup> Even if the Commission were to classify retail voice over IP services as information services, the Commission still would have the ancillary jurisdiction authority to require interconnection by incumbent LECs under Sections 201 and 202 of the Act, could invoke its ancillary jurisdiction under Section 4(i) of the Act, and could reasonably conclude that interconnection was required for the telecommunications component of the underlying service.<sup>34</sup> Most importantly, Verizon conveniently ignores the key determination in the *North Carolina Interconnection Order* that providers are entitled to interconnection at the wholesale, carrier-to-carrier level, regardless of the nature of the retail service provided to end

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<sup>30</sup>Comments of AT&T at 38.

<sup>31</sup>Memorandum Opinion and Order, *Vonage Holdings Corporation Petition for a Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, 19 FCC Rcd 22404 (2004), *aff'd* *Minn. PUC v. FCC*, 483 F.3d 570 (8<sup>th</sup> Cir. 2007).

<sup>32</sup>Universal Service Contribution Methodology, *Report and Order and Notice of Proposed Rulemaking*, 21 FCC Rcd 7518, 7544 (2006) (noting that voice over IP providers that can determine the portion of their traffic that is intrastate in nature may use actual data for universal service reporting purposes); Universal Service Contribution Methodology, *Declaratory Ruling*, 25 FCC Rcd 15651 (permitting states to recover universal service contributions from nomadic interconnected voice over IP providers).

<sup>33</sup>Comments of Verizon at 27-29.

<sup>34</sup>Cox has addressed jurisdictional issues relating to voice over IP interconnection at length in earlier filings. See Cox IP-Enabled Services Comments at 22-26.

users.<sup>35</sup> AT&T's argument that the Commission has determined that voice over IP services are information services appears to be based entirely on one of AT&T's own pleadings.<sup>36</sup> The Commission most assuredly has *not* decided that issue, as is evidenced by any one of a number of orders released in the last ten years, including the order that includes the *Further Notice*.<sup>37</sup>

What AT&T and Verizon really are saying with these arguments is that they no longer, and one could argue never did, want to interconnect on reasonable terms and conditions with competitive providers of any kind. This is most evident in AT&T's argument that the Commission's *North Carolina Interconnection Order* would not permit a certificated carrier that also offered voice over IP service to obtain interconnection for that service.<sup>38</sup> As an initial matter, that claim is entirely unsupported by the order itself, which says that a certificated CLEC that requests interconnection for the purpose of transmitting calls from voice over IP customers is entitled to that interconnection.<sup>39</sup> Even if the order was unclear on that point, the identity of the provider of retail voice over IP is irrelevant. A certificated CLEC has consistently been found to be entitled to interconnection as a right under Section 251 for transmission of local traffic. Under Section 251, it does not matter who the underlying customer is or what technology is used to provide that customer with managed voice service.

Finally, applying Sections 251 and 252 to IP interconnection by CLECs providing managed interconnected voice over IP services does not require applying those provisions to data exchanged over the public Internet. The Commission already has

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<sup>35</sup> *North Carolina Interconnection Order*, 22 FCC Rcd at 3517.

<sup>36</sup> Comments of AT&T at 38.

<sup>37</sup> *Further Notice*, ¶ 954.

<sup>38</sup> Comments of AT&T at 38.

<sup>39</sup> *North Carolina Interconnection Order*, 22 FCC Rcd at 3517.

distinguished between managed interconnected voice over IP service and Internet traffic in its *Network Neutrality Order*, which specifically determined that the new rules would not be applied to managed services, including managed voice over IP, because they were provided separately from standard Internet access.<sup>40</sup>

Accordingly, the Commission need not expand the present scope of interconnection rights to parties other than the CLECs that presently have such rights because such an expansion would not be covered by Sections 251 and 252. As other commenters have recognized, other services, such as data and video exchanged over the Internet, over-the-top voice over IP and non-interconnected voice over IP, should not be included in the interconnection regime.<sup>41</sup>

**C. The Commission Should Adopt a Specific Framework for IP Interconnection for CLECs.**

In support of its finding that Sections 251 and 252 apply to IP-based traffic exchange and interconnection, the Commission could facilitate the transition to IP technology by adopting a few specific concepts to govern those aspects of IP interconnection that are not addressed in the current TDM interconnection environment. The Commission also should ensure that TDM interconnection remains available to companies that have not yet made the conversion to IP interconnection.

*Notification Process.* The Commission should require, under the network modification provisions of Section 251(c)(5), that any incumbent LEC that intends to offer IP interconnection notify all carriers interconnected via TDM facilities six months prior to the time the IP facilities become available. This will allow sufficient time for

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<sup>40</sup> Preserving the Open Internet, *Report and Order*, 25 FCC Rcd 17905, 17965 (2010) (the “*Network Neutrality Order*”).

<sup>41</sup> See, e.g., Comments of Comcast at 28 (noting that there is no need to intervene in commercial Internet backbone arrangements).

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carriers that wish to convert to IP interconnection to make appropriate interconnection requests, negotiate or arbitrate terms and conditions for IP interconnection under the Section 252 framework, and prepare their facilities for interconnection.

Cox submits that this notification approach is more reasonable than adopting rules that require IP interconnection to be made available at a specific time. Allowing carriers to set their own timetables for IP interconnection will ensure that the conversion occurs when it is reasonable and cost effective. It is better for individual carriers to base their decisions on their own economic considerations, available technology, engineering requirements and service issues than to be subject to a one-size-fits-all cutover date.

*No Phase Out of TDM Interconnection.* The Commission's rules should specify that TDM-based interconnection should be available from an incumbent LEC as carriers transition to IP technology. The Commission should not set any deadline for using IP interconnection until it is apparent that the transition is nearly complete. Setting a deadline today would mean making an arbitrary universal determination about when it will be economically reasonable for each carrier to complete the conversion, even though the process has not really begun.<sup>42</sup> Permitting incumbents to require conversion would prevent competitive carriers from exercising their reasonable economic judgment. Moreover, not setting a deadline eliminates any need for the Commission to mandate cost recovery for IP-to-TDM conversion, as no carrier will be forced to convert traffic at any specific time.<sup>43</sup>

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<sup>42</sup> The Commission could, of course, decide at some later date to impose a conversion deadline after nearly all carriers already have converted, similar to the deadline it imposed for elimination of analog cellular service, which was not set until digital technology had become prevalent in wireless services. *See* Year 2000 Biennial Review – Amendment of Part 22 of the Commission's Rules to Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and Other Commercial Mobile Radio Services, *Report and Order*, 17 FCC Rcd 18401 (2002).

<sup>43</sup> *Further Notice*, ¶ 1361.

Consistent with the requirement to maintain existing TDM-based interconnection, Cox agrees with the comments of CBeyond and other competitive carriers that the Commission should not adopt any of the network edge proposals in this proceeding.<sup>44</sup> These proposals would shift the burden of bearing the costs of interconnection to competitors, with no benefit to competition or the marketplace. Rather than adopting these proposals, the Commission should retain the current rules governing how costs of interconnection are to be allocated.<sup>45</sup>

*No Mandatory Points of Interconnection.* The Commission should not mandate any set number of, or location for, IP-IP points of interconnection. It is, however, reasonable to require that an incumbent LEC permit IP interconnection at any point where it already permits IP interconnection, as is the case for TDM interconnection. This requirement will prevent discrimination by incumbents against specific competitors.

It also would be acceptable for the Commission to adopt the Sprint/T-Mobile proposal, as a fallback requirement, to mandate at least a single point for IP interconnection per state, so long as the point of interconnection is at a carrier-neutral collocation site, and not at a site of the incumbent's choosing.<sup>46</sup> Such a requirement would be analogous to, but more efficient than, the Commission's existing requirement for at least one point of interconnection per LATA.<sup>47</sup> Even with such a requirement in place, mutually-agreed additional points of interconnection should be permitted.

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<sup>44</sup> See Comments of CBeyond *et al.* at 15-16.

<sup>45</sup> 47 C.F.R. § 51.703(b); *see also* *TSR Wireless, LLC v. U S West Communications, Inc.*, Memorandum Opinion and Order, 15 FCC Rcd 11166 (2000) (carriers must pay costs for transport to points of interconnection), *aff'd sub. nom. Qwest Corp. v. FCC*, 252 F.3d 462 (D.C. Cir. 2001).

<sup>46</sup> See Comments of T-Mobile at 13.

<sup>47</sup> *See, e.g.,* Connect America Fund, *Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking*, 26 FCC Rcd 4554, 4775 & n. 1088 (2011).

**III. Transit Remains Critical to Ensure Reasonable Indirect Interconnection Is Available.**

The *Further Notice* seeks additional comment on issues relating to transit as a means of indirect interconnection.<sup>48</sup> As Cox has described to the Commission previously, transit remains an essential element of indirect interconnection, and incumbents are required to make transit available under Section 251(c).<sup>49</sup> The suggestion that transit should be unregulated is baseless and should be rejected.<sup>50</sup> Rather, as several carriers suggested, the Commission should require transit to be made available at cost-based rates.<sup>51</sup>

Most importantly, and contrary to the suggestion of Neutral Tandem, transit remains essential because it is the only mechanism for indirect interconnection in many cases as even the most successful competitive transit provider does not reach most of the carriers in the country.<sup>52</sup> The only carriers that do in fact interconnect with all other carriers in their local calling areas are the incumbents, and thus they form an indispensable link to every other carrier.

The lack of a competitive alternative is further confirmed by the prices that carriers seek to charge for transit. As Cox has explained, incumbents across the country

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<sup>48</sup> *Further Notice*, ¶ 1313.

<sup>49</sup> See Comments of Cox Communications, Inc., WC Docket 10-90, *et al.*, filed Aug. 24, 2011, at 14-15 (“Cox August 24 Comments”), Letter from J.G. Harrington, Counsel to Cox Communications, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 10-90, 07-135, 05-337, GN Docket No. 09-51, CC Docket Nos. 01-92, 96-45, at 1-2, 4 (filed Oct. 19, 2011), Letter from J.G. Harrington, Counsel to Cox Communications, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 10-90, 07-135, 05-337, GN Docket No. 09-51, CC Docket Nos. 01-92, 96-45, at 1-3 (filed Oct. 21, 2011).

<sup>50</sup> See Comments of Neutral Tandem dba Intelliquent.

<sup>51</sup> See Comments of Cbeyond, *et al.* at 11-14.

<sup>52</sup> Neutral Tandem has told the Commission that it connects with “more than 100” of the largest carriers in the United States, but there are thousands of interconnected local voice service providers. Letter from Russell Blau, Counsel to Neutral Tandem, to Marlene H. Dortch, Secretary, FCC, WC Docket 10-90 *et al.* (filed Oct. 4, 2011) (the “Blau Letter”), declaration of Gerard Laurain at 1-2. Cox notes that Neutral Tandem continues to rely on prior comments, without addressing this consideration, to claim that transit is competitive.

propose transit rates that are far in excess of cost, and certainly well above TELRIC rates.<sup>53</sup> If the market were competitive, incumbents would be constrained to offer cost-based rates. Thus, in the absence of regulation, transit will be available only at supra-competitive rates.<sup>54</sup>

In fact, regulation is mandated by Section 251(c) because transit is a form of interconnection under Section 251(c)(2). Cox previously described the reasons that transit must be treated as a form of interconnection in detail in its earlier comments in this proceeding.<sup>55</sup> The best statement on this issue comes from the U.S. District Court in Nebraska, which examined the question in 2008:

When Section 251(a) is read in conjunction with Section 251(c), it is clear that Congress imposed this obligation in Section 251(c) of the Act. Under Section 251(c), an ILEC must allow a CLEC to interconnect its facilities and equipment with the ILEC's network "for the transmission and routing of telephone exchange service and exchange access." 47 U.S.C. § 251(c)(2)(A); 47 C.F.R. § 51.305(a). Accordingly, an ILEC must provide transit service when a CLEC interconnects with the ILEC for the purpose of indirectly interconnecting with a third carrier. Otherwise, the indirect interconnection could not be used "for the transmission and routing of telephone exchange service and exchange access," and an ILEC could frustrate the flow of traffic and prevent carriers from indirectly interconnecting. Such a finding would render the "indirectly" language in Section 251(a) meaningless. The clear language of Section 251 requires ILECs to directly interconnect with competitors and facilitate competitors' ability to indirectly interconnect.<sup>56</sup>

While one party has argued to the Commission that transit cannot be a form of interconnection because it involves transport,<sup>57</sup> that claim is refuted by the FCC's own decisions and by the Supreme Court's decision in *Talk America v. Michigan Bell*, which

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<sup>53</sup> See Cox August 24 Comments at 14 (describing range of rates proposed by incumbent LEC in different states).

<sup>54</sup> Comcast also notes that incumbents may try to recoup some of their lost access revenues by increasing transit rates. Comments of Comcast at 8.

<sup>55</sup> See Cox August 24 Comments at 13-14.

<sup>56</sup> *Qwest v. Cox Nebraska Telecom*, 2008 WL 5273687 \*6 (footnote omitted); see also *Southern New England Telephone v. Pelemino*, 2011 WL 1750224 \*7 (citing *Qwest* with approval).

<sup>57</sup> See Blau Letter.

specifically held that entrance facilities are a form of interconnection.<sup>58</sup> Like transit, entrance facilities use transport (and typically significantly more transport than transit). If they are a form of interconnection, there is no reason to believe that transit is not.

Finally, any transit obligation must be technologically neutral. As described above, Sections 251 and 252 apply regardless of the technology used.<sup>59</sup> Thus, the transit obligation also applies to any technology used to transmit calls from one network to another. More specifically, if an incumbent makes IP interconnection available, it must offer transit over those interconnection facilities. This will be particularly important during the early evolution of IP interconnection, as smaller carriers may be reluctant to invest in interconnection facilities that are specific to other smaller carriers and as competitive alternatives will not be well developed.

**IV. The Commission Should Adopt Rules for Originating Access and 8YY Access that Are Tailored to the Requirements and Marketplace Realities of Those Services.**

**A. In Reforming Originating Access, the FCC Should Consider the Differences Between Originating and Terminating Switched Access.**

Whatever action the Commission ultimately takes regarding originating access, it should begin by continuing to ensure symmetrical treatment for all originating access, as Cox and others have urged the Commission to do in connection with pending petitions for reconsideration.<sup>60</sup> The Commission also must realize that there are fundamental differences between originating and terminating switched access. Unlike terminating

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<sup>58</sup> *Talk America, Inc. v. Michigan Bell Co.*, 131 S.Ct. 2254 (2001) (noting that transport used in connection with entrance facilities does not disqualify use of such facilities as interconnection).

<sup>59</sup> See *supra* Section II.B.1.

<sup>60</sup> See, e.g., Letter from J.G. Harrington, Counsel to Cox, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90 *et al.*, Mar. 16, 2012 (discussing reasons to maintain equal treatment for incumbents and voice over IP providers in originating access pricing), Letter from A. Richard Metzger, Jr., Counsel to Comcast Corporation, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90 *et al.*, Mar. 8, 2012 (same), Letter from Jennifer K. McKee, National Cable & Telecommunications Association, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90 *et al.*, Mar. 16, 2012 (same).

switched access, where the LEC has the retail relationship and revenue opportunity with the end user, with originating access that opportunity sits entirely with the IXC (or LEC-affiliated IXC), who is billing the end user for its service. For this reason, as long as equal access and stand-alone long distance service remain available, there is no reason to reduce originating access charges to bill and keep.<sup>61</sup>

8YY access presents different issues than originating access. For instance, LEC end user customers dialing 8YY calls do not pay for the call but *unknowingly* select the IXC network responsible for transporting and terminating the traffic; that IXC pays the dialer's LEC for access. Also, toll-free service remains a significant commercial business opportunity. Ultimately, there is no economic or policy reason that LECs whose customers dial 8YY calls to other providers should be required to lower originating 8YY access rates solely for the benefit of interexchange carriers and their customers.<sup>62</sup>

**B. If the FCC Does Transition Originating Access to a Bill and Keep Regime, Any Transition Should Use the Same Timeline as for Terminating Switched Access.**

The Commission has stated its desire to transition all intercarrier compensation rates to bill and keep.<sup>63</sup> If the Commission ultimately adopts that approach for originating access services, it should adopt a transition timeline that has the same

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<sup>61</sup> Comments of the Rural Carrier Associations at 13 (noting that equal access in a bill-and-keep environment requires the LEC to provide a service solely for the benefit of the IXC, without payment; Comments of Moss Adams, LLP *et al.* at 5 (explaining that imposing bill and keep for originating access would not assess costs on the toll provider to which the ILEC is providing service and thus is improper); Comments of CenturyLink at 7-10 (describing distinct attributes of originating access that weigh against bill and keep compensation).

<sup>62</sup> Comments of Comcast at 6 (shifting to bill and keep for 8YY traffic will raise novel legal and policy questions because the end user of the originating service provider is not the customer of the 8YY service.); Comments of HyperCube at 14-16 (Commission should take no action now to eliminate originating access charges, because the marketplace can be expected to address them adequately.).

<sup>63</sup> *Further Notice*, ¶ 736.

endpoints as the timeline for terminating access. Indeed, as Comcast suggests, a national, uniform transition is critical.<sup>64</sup>

There are several reasons to adopt a parallel timeline. First, once the Commission determines that the end state should be bill and keep, there is no reason to have a transition that is any longer than necessary. The timeline adopted for terminating access effectively sets the shortest practical period for the transition, as it would be unreasonable to expect to bring originating access rates to zero any faster or slower than terminating access rates.

Second, adopting the same end date is administratively simpler for all carriers. It allows them to modify their billings systems and other back office operations on a unified schedule, rather than eliminating one charge and then another after varying transitions.<sup>65</sup> A unified end date will simplify other forms of planning as well.

Third, adopting the same timeline will help to limit potential arbitrage opportunities that might arise from eliminating terminating access charges at a different time than originating access charges. While it may not appear obvious what arbitrage opportunities would exist, experience shows that carriers will find those opportunities wherever they occur. Arbitrage occurred with reciprocal compensation and ISP-bound traffic; it happened with access stimulation; and it happened with phantom traffic. The Commission should expect that having different end dates for the transition to bill and keep for terminating and originating access will create an arbitrage opportunity that some carriers will seek to exploit.

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<sup>64</sup> Comments of Comcast at 5-6.

<sup>65</sup> Comments of Moss Adams, LLP *et al.* at 6 (If transition begins immediately, it should mirror terminating access so that administrative and tariffing burdens are minimized.)

**C. The Commission Should Adopt a Recovery Mechanism for Revenues Lost as a Result of Reductions in Originating Access Charges.**

In the order portion of the *Further Notice*, the Commission adopted a recovery mechanism to permit carriers to recoup lost terminating access revenues through flat charges on end users.<sup>66</sup> The Commission stated that this mechanism was necessary to prevent undue revenue losses over the transition to bill and keep for terminating access. It also adopted safeguards to prevent carriers from recovering more revenue than necessary. Cox now urges the Commission to adopt a similar recovery mechanism to moderate the impact of reductions in *originating* access and to limit access to the mechanism to those carriers that actually lose revenues from originating access reductions.

To accomplish a viable recovery mechanism for originating access losses, the Commission should allow local exchange carriers to impose a flat fee charge on any customers who choose long distance providers other than their local exchange carriers. Like the access recovery charge, this fee should be imposed on a per-line basis and should be graduated, increasing as maximum originating access charges decline. It is inappropriate to permit this charge to be imposed on customers who purchase long distance service from their local carriers because originating access costs already are being recovered in the retail rates paid by those customers.<sup>67</sup>

Similarly, given the unique nature of the 8YY service noted above, if the Commission chooses to reduce 8YY access charges, local exchange carriers should be

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<sup>66</sup> *Further Notice*, ¶¶ 847-923.

<sup>67</sup> Cox notes that, for this reason, it is not discriminatory to impose the fee only on customers who purchase long distance service from other carriers – the local carrier will recover its costs either through its retail rates or through the charge, but in either case it will recover those costs from every local telephone customer.

permitted to recover their costs for providing those services as well. Since the cost-causing customer is the one that purchases 8YY service, in this case the fee should not be imposed on the local exchange carrier's customers. Instead, it should be paid by the long distance carriers that transmit 8YY calls, either as a flat per-call fee or by enhancing existing fees for 8YY database queries.

Notwithstanding the above suggestions, the Commission should not, however, permit carriers to recover lost originating access revenues from the Connect America Fund.<sup>68</sup> As the Commission has recognized, the size of the Connect America Fund should be limited, and the fund should be used to the maximum extent possible to support broadband service, not legacy voice service.<sup>69</sup> Designing the recovery mechanism so that customers pay the costs of access directly through an access recovery charge, rather than indirectly through the Connect America Fund, will send more efficient market signals and will be more equitable for both carriers and consumers.

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<sup>68</sup> Comments of Time Warner Cable at 19-20 (stating the Commission should not make funding available through its newly established recovery mechanism to offset reductions in originating access rates); Comments of Cbeyond, *et al.* at 8-9 (arguing that if originating rates are reduced, ILECs should not be able to tap the currently envisioned access recovery fund for recovery).

<sup>69</sup> *Further Notice*, ¶ 18.

