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
	)	
Universal Service Reform — Mobility Fund	)	WT Docket No. 10-208

REPLY COMMENTS OF AT&T

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INTRODUCTION AND SUMMARY

The *ICC-USF Reform Order* is a historic achievement.[1] By charting a course to bill-and-keep for the PSTN, the Commission has taken many of the steps needed to eliminate wasteful arbitrage schemes, wean the industry from inherently unstable intercarrier revenues, and make each carrier more responsible to its own customers for cost recovery. Just as important, by eliminating regulatory entitlements to termination charges, bill-and-keep will eliminate the artificial incentives that such charges have given all LECs to prolong the lifespan of PSTN-based networks, with their traditional regulatory entitlements to interconnection and money transfers. The result will be a faster transition to an all-IP future, when all traffic exchanges will take place between networks serving their customers in IP format—that is, "IP-to-IP interconnection" in the precise sense used in our opening comments and below.

The *FNPRM* now poses a critical threshold choice about interconnection policy in that all-IP future. First, the Commission can decide that it will treat voice like any other higher layer application and will thereby *facilitate* the convergence of all electronic communications, including voice, over a unified technological platform consisting of the Internet and its constituent IP networks. Or the Commission could *obstruct* that convergence by singling out "voice" communications for special interconnection obligations that would induce many providers to keep those communications artificially segregated, lest those obligations infect Internet traffic exchanges more generally. The first option looks forward, to a fully convergent era; the second looks backward, to a pre-convergence world of service-specific regulatory silos. The first option is the right choice as a matter of both policy and law.

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[1] Report and Order and Further Notice of Proposed Rulemaking, *Connect America Fund et al.*, 26 FCC Rcd 17663 (2011) ("*Order*" or "*FNPRM*").

Interconnection between IP networks. Like the Commission's long-term regulatory options, the comments on IP-to-IP interconnection are divided into two camps, one forward-looking and one retrograde. First, some commenters have thought far enough ahead into the all-IP future to recognize that today's distinctions between "voice" and "data," and between "managed" and "over-the-top" VoIP, can form neither stable nor economically sensible bases for long-term communications policy. As Comcast explains (at 27)—

- "technological changes" may well "blur the distinction" between "facilities-based" and over-the-top VoIP;
- "all VoIP traffic may ultimately be exchanged pursuant to the same peering and transit arrangements as other Internet traffic"; and
- interconnection regulation for *any* VoIP traffic thus "could suddenly catapult the Commission into the regulation of the Internet backbone, even if it agrees, as it should, that this is a line it should and will not cross."

Regulation of IP-to-IP interconnection is likewise needless, as illustrated by twenty successful years of unregulated Internet peering and transit arrangements and the billions of high-quality over-the-top VoIP calls already exchanged by means of those arrangements. That conclusion does not depend on whether given VoIP packets are exchanged through best-effort connections or are instead "managed" (*i.e.*, given end-to-end special handling) to ensure quality of service. Comcast observes that managed VoIP providers "have begun to enter into commercial IP-to-IP interconnection arrangements" under which they "exchange traffic at specified levels of prioritization," and "industry groups are beginning to standardize the ways in which such traffic exchanges occur," including arrangements for "third-party transit for VoIP services." Comcast Comments at 20, 24. Comcast thus rightly urges "the Commission not [to] interfere with these efforts with regulations that will distort the developing marketplace." *Id.* at 24-25.[2]

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[2] *See also* CenturyLink Comments at 42-47; USTelecom Comments at 7-9; Verizon Comments at 20-21.

Other commenters, however, ignore these industry developments; assume that there is a sharp and permanent distinction between "the Internet" and the "IP networks" that carry "voice" traffic; and conclude that 1990s-era regulation will remain necessary indefinitely to combat the supposed predations of ILECs. *See, e.g.*, Time Warner Cable ("TWC") Comments at 11-12. These views are wrong at every turn. First, in a technological environment undistorted by artificial regulatory categories, there is no stable boundary separating "the Internet" from the "managed" traffic exchanged between the Internet's constituent IP networks, as Comcast and others observe. Second, even if there were such a boundary, there would still be no reason to conclude that unregulated IP-to-IP interconnection for the exchange of managed voice traffic will be any less successful than unregulated IP-to-IP interconnection for the exchange of all other traffic over the Internet. Third, even if there were some market failure to fear here, and there is not, it could hardly be attributable to the market position of *ILEC*-affiliated providers, and it would make no sense to subject such providers to special regulatory burdens. ILEC-affiliated IP networks generally lag behind cable companies in the provision of VoIP, Internet access, and other IP services, and some commenters argue that these ILEC affiliates will eventually succumb to the cable companies' greater scale economies for all wireline consumer services. *See* note 6, *infra*. Certainly ILECs own no essential facilities that could possibly extend into the all-IP era any advantages they once enjoyed in the legacy circuit-switched environment.

As discussed in our opening comments and below, subjecting VoIP providers to interconnection obligations would not only make no policy sense, but also violate the Communications Act. VoIP is an information service immune from Title II common carrier regulation, including generalized interconnection obligations. Very few commenters appear to disagree with that statutory classification of VoIP services. For example, Google, Skype,

Vonage, and Sprint rightly maintain that "[m]any, if not most, IP-based voice services are properly classified as 'information services' as defined under the Act."[3]

Google nonetheless asserts that "[i]t is not necessary . . . to determine the regulatory classification of the services provided to the ultimate end users" in order to resolve the Commission's authority to impose IP-to-IP interconnection because, it says, "the Act provides express authority over telecommunications carrier services" and justifies interconnection obligations for so-called "facilities-based" VoIP providers. Google Comments at 5. That is flatly wrong. An entity is a "telecommunications carrier" only insofar as it is providing "telecommunications services," and the Act affirmatively prohibits the Commission from subjecting any network to common carrier regulation when it is *not* providing those services. 47 U.S.C. § 153(51). A service cannot be both a "telecommunications service" and an "information service"; it must be one or the other, and what matters is how a customer perceives it, not what goes on behind the scenes to produce it.[4] In particular, the relevant statutory provisions "do not distinguish facilities-based and non-facilities-based carriers," and any regime that applies Title II regulation to "facilities-based" providers would necessarily "subject to common-carrier regulation non-facilities-based [providers] that own no transmission facilities."[5] In sum, the Commission cannot lawfully impose interconnection obligations on VoIP providers at all; but even if it could, it could not impose VoIP interconnection obligations on "managed" or

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[3] Google, Skype, Sprint Nextel, and Vonage, White Paper, *Hold the Phone (Charges): The Legal and Policy Implications of Extending Legacy Charges to IP Services*, at 5 (Sept. 2011) ("*Google White Paper*"), attached to Letter from Donna N. Lampert, Counsel to Google, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 10-90 *et al.* (filed Sept. 30, 2011).

[4] *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 994, 997 (2005).

[5] *Id.*

"facilities-based" VoIP providers (let alone the minor subset of such providers consisting of ILECs) without subjecting "over-the-top" providers to the same obligations.

IP-to-PSTN interconnection. As discussed in our opening comments, the Commission should disentangle two quite distinct topics that some commenters lump together confusingly under the term "IP-to-IP interconnection." Specifically, the Commission should carefully distinguish between (1) the longer-term issues discussed above, relating to interconnection *between IP networks* (what we call "IP-to-IP interconnection"), and (2) the shorter-term issues relating to whether *circuit-switched PSTN networks* must accept traffic from IP networks in IP format ("IP-to-PSTN interconnection") and must therefore bear the cost of deploying, throughout their networks, the equipment necessary to convert IP traffic to TDM format.

The Commission has already taken many of the steps needed to ensure that these latter issues take care of themselves. By reducing and ultimately eliminating every LEC's regulatory entitlement to intercarrier revenues for the termination of PSTN traffic, the *Order* sharply curtails all LECs' incentives to cling to the PSTN technologies that have generated those legacy revenues. Instead, every LEC now has increasingly strong incentives to substitute efficient IP technologies for less efficient and duplicative circuit-switched technologies, and to do so as promptly as possible. The Commission can remove any lingering concern about that outcome by establishing a date certain for the sunset of the PSTN, after which remaining circuit-switched networks will retain no interconnection rights of any kind. In the meantime, the Commission should avoid regulating the details of IP-to-PSTN interconnection. There is no legal basis for such regulation, and there is also no need for it: the market has already begun providing competitive choices for such interconnection in the form of IP-to-PSTN transit services offered by AT&T and others.

It is also nonsensical to argue, as some commenters do, that ILECs are somehow to blame for these IP-to-TDM conversion costs or that they continue to operate TDM networks because they wish to disadvantage rivals. State-level carrier-of-last-resort obligations often effectively require ILECs to offer service in TDM format, and so long as those obligations remain on the books, there will always be a need for IP-to-TDM conversion. More generally, ILECs are specially subject not only to those COLR obligations, but to a variety of additional ILEC-specific universal service obligations and other legacy regulatory burdens that drive up their costs and impair their ability to compete effectively with largely unregulated cable broadband services.[6] AT&T has long advocated that the Commission remove those burdens on both the federal and state levels because they are obsolete and unnecessary in an all-IP environment.[7] Against that backdrop, it would be the height of arbitrariness for the Commission to *add* to these ILEC-specific burdens by forcing ILECs to bear the additional costs of IP-to-PSTN interconnection.

Transition to bill-and-keep for PSTN traffic. The Commission also should design its bill-and-keep regime for PSTN traffic in a way that hastens, rather than hinders, the industry's transition to an all-IP architecture. To that end, the Commission should adopt AT&T's proposed framework, which offers efficient and competitively neutral intercarrier compensation and Edge

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[6] *See, e.g.*, Craig Moffett *et al.*, *U.S. Cable and U.S. Telecommunications: Broadband End Game?*, Bernstein Research, at 1, 7 (2010) ("[C]able's advantaged infrastructure will win the broadband wars. . . . Cable's share of 2Q 2010 net broadband additions rose steeply, to 91.4%, versus 67% in the prior quarter and a mere 41% in the year-ago quarter."); *see also* Susan P. Crawford, *The Communications Crisis in America*, 5 Harvard L. & Pol'y Rev. 245, 248, 261 (2011) ("Given the tremendous economies of scale and cost advantages of the cable industry, being a wireline phone company is not a great business these days . . . . The emergence of a *de facto* cable monopoly in high-speed wired Internet access in most of the country cannot stay a secret.").

[7] *See, e.g.*, Comments of AT&T, *Connect America Fund et al.*, WC Docket Nos. 10-90 *et al.*, at 54-82 (filed Apr. 18, 2011).

rules for the declining amount of traffic that will remain on the PSTN over the next half-dozen years.

Many commenters are fundamentally confused about what the term "bill-and-keep" means in practice. A surprising number suggest that, under such a regime, no carrier will ever pay any other carrier for the transport or termination of traffic. But every coherent bill-and-keep proposal has rejected the notion that sending carriers may drop their traffic off at *any* point on a terminating carrier's network on a settlement-free basis. Instead, bill-and-keep identifies a *financial* point of interconnection between two carriers, known as the network "Edge," where one carrier's *financial* responsibility for the costs of traffic ends and another carrier's begins.

Importantly, that Edge may or may not coincide with any *physical* point of interconnection. The sending carrier may, but is not required to, transport its traffic to the network Edge using its own facilities. The sending carrier may hire the terminating carrier, a third-party carrier, or a combination of the two to transport traffic on its behalf. But if the sending carrier elects to rely on another carrier to fulfill its transmission responsibilities, it must pay that carrier for the services it provides. Thus, if the sending carrier hands its traffic off to the terminating carrier short of the network Edge, it must pay that carrier for "extra-Edge transmission"—*i.e.*, transmission from the physical point of interconnection to the network Edge. And if the sending carrier relies on a third-party carrier, such as a transit provider, it likewise must compensate that carrier for bridging the gap between the sending carrier's facilities and those of the terminating carrier. Indeed, this is simply what it means to define a network Edge.

There is also no sound legal or policy basis for subjecting such intermediate transmission services to prescriptive price constraints, under TELRIC or otherwise. Neither section 251(c)(2) nor section 251(b)(5) requires third-party carriers or terminating carriers to bridge the gap

between the sending carrier and the network Edge at regulated rates. Moreover, price constraints would be particularly unnecessary and counterproductive for tandem transit services because those services are highly competitive. Forcing ILEC transit prices down to TELRIC would not only undermine efficient investment incentives, but also devastate the existing market for competitive transit services, as Level 3 and Neutral Tandem recognize in opposing such regulation. Indeed, the Commission drew a closely analogous conclusion a dozen years ago when it rejected calls to convert special access links to TELRIC-priced network elements, reasoning that "competitive access . . . is a mature source of competition" and that forcing down the rates for ILEC services "could undercut the market position of many facilities-based competitive access providers."[8]

Of course, for this framework to function properly, the Commission must establish efficient and competitively neutral network Edges, and AT&T's Edge proposal would best serve that goal. It accounts for differences in network architecture among CLECs, ILECs, wireless carriers, and VoIP providers, as it permits different types of carriers to establish network Edges in different locations. At the same time, it would provide uniform and clear Edge rules, thereby ensuring efficiency and minimizing carrier disputes. In short, AT&T's proposal is far superior to the self-serving alternatives offered by other commenters, such as defining Edges to fall wherever two networks happen to interconnect today or deferring to the divergent policy goals of fifty state commissions.

Finally, the Commission should ensure that carriers have an adequate opportunity to recover their network costs as it reduces intercarrier compensation charges. Those charges are

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[8] Supplemental Order Clarification, *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, 15 FCC Rcd 9587, 9597 ¶ 18 (2000) ("*Supplemental Order Clarification*"), *aff'd*, *Competitive Telecomms. Ass'n v. FCC*, 309 F.3d 8 (D.C. Cir. 2002).

designed to recover real network costs, and the very premise of bill-and-keep is that carriers will turn to their end users (or universal service funding mechanisms) for recovery of those costs. The Commission therefore should reject calls for premature reductions to subscriber line charges or to the Access Recovery Charge ("ARC"). Although such charges will no longer be meaningful price components once providers have moved to all-IP networks and are not rate-regulated, they remain essential to ensure a smooth transition to bill-and-keep for PSTN traffic.

DISCUSSION

I. THE COMMISSION SHOULD NOT AND MAY NOT REGULATE INTERCONNECTION AMONG IP NETWORKS

As discussed in our opening comments, the Commission *need* not and *should* not regulate interconnection among IP networks "for the exchange of voice" or any other traffic, and it *may* not impose such regulation as a legal matter. We address those policy and legal points in turn.

A. Regulation of IP-to-IP Interconnection Would Be Needless and Counterproductive

The commenters who would inflict PSTN-style interconnection rules on the emerging all-IP ecosystem all but ignore a critical industry reality that is nonetheless staring policymakers in the face. Every day, the Internet's constituent IP networks exchange millions of high-quality VoIP calls between their respective subscribers, all without any interconnection obligations. For example, consider a call between two parties who subscribe to the same over-the-top VoIP service but different broadband ISPs. The calling and called parties reach the Internet through different IP networks, and those networks have no duty to interconnect. But the call goes through anyway because, after querying an Internet database maintained by the VoIP provider (or its IP network partner), the two ISP networks voluntarily exchange the relevant VoIP traffic by means of the same unregulated peering and transit arrangements by which they exchange all other Internet traffic between their respective customers:

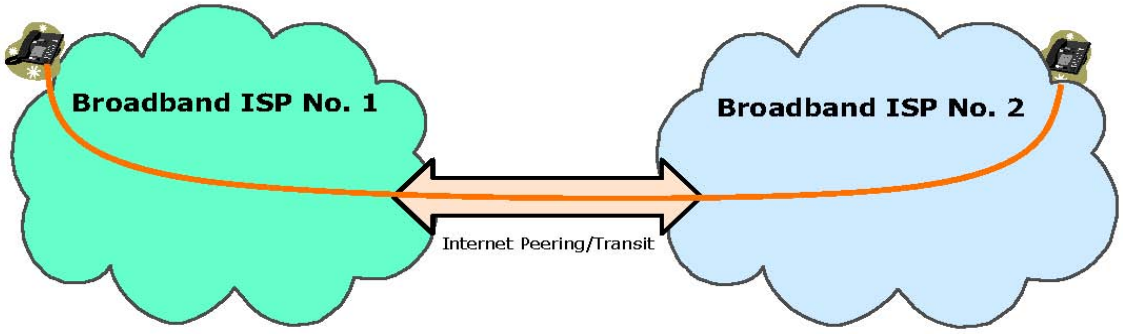

Figure 1: Internet-based call between users with the same VoIP provider but different broadband ISPs

The ubiquitous success of these unregulated over-the-top VoIP interconnection arrangements is an embarrassment to the pro-regulation commenters, and they therefore say little or nothing about this phenomenon. Instead, they focus on "managed" (or "facilities-based") VoIP services.[9] But there is neither a policy nor a legal basis for treating interconnection arrangements for "managed" VoIP traffic differently from interconnection arrangements for over-the-top VoIP or any other IP traffic exchanges on the Internet.

1. *Any Regulatory Distinction Between "Managed" and "Over-the-Top" VoIP Services Would Be Technologically Unstable and Would Threaten Broader Regulation of Peering and Transit*

"Managed" and "over-the-top" VoIP services are far more similar than some commenters appear to understand, and traffic exchanges for "managed" VoIP traffic may well come to share the same unregulated interconnection arrangements as traffic exchanges for over-the-top VoIP and all other Internet traffic. For that reason and others, regulation of managed VoIP exchanges could easily bleed into regulation of Internet peering and transit agreements, with enormously disruptive consequences for the Internet ecosystem as a whole. This point requires a brief review

[9] *See, e.g.*, TWC Comments at 11-12; Bandwidth.com Comments at 8; Cbeyond *et al.* Comments at 21-23; COMPTEL Comments at 17.

of the similar technologies underlying these two forms of VoIP service. As discussed below, Comcast's comments generally capture the reality of those technologies, whereas TWC's comments largely misunderstand them.

TWC suggests that "the public Internet" carrying over-the-top VoIP packets and the "private IP network[s]" carrying "managed" VoIP packets are mutually exclusive spheres, and that the only similarity between the two is the semantic fact that "'Internet Protocol' has the word 'Internet' in it." TWC Comments at 11 & n.29. That is wrong. What we call "the Internet" *consists of* these interconnected "private IP networks," many of which are used for both managed and best-effort traffic.[10] The packets associated with managed VoIP thus ride on top of much the same physical-layer infrastructure as the packets associated with over-the-top VoIP, and both types of service make use of similar higher-layer call set-up protocols, such as SIP ("Session Initiation Protocol"). The main difference is that IP network operators give the packets associated with "managed" VoIP traffic some form of special handling on that infrastructure.[11]

This difference in packet handling is, moreover, logically distinct from the question of who owns the underlying transmission facilities, and use of the term "facilities-based" VoIP as a synonym for managed VoIP is thus somewhat imprecise. The broadband provider that owns a last-mile network can offer over-the-top VoIP services to its customers without any special packet-handling arrangements. Or it could enter into a commercial agreement to provide special

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[10] *See* AT&T Comments at 10-11; *see also* XO Comments at 2 ("[T]he most efficient arrangements" for VoIP traffic exchanges "may ultimately include co-mingling voice traffic over current IP peering arrangements[.]"); Cricket Comments at 12 ("[T]hese same Internet exchange points and peering and transit arrangements are already used to carry IP-voice traffic today.").

[11] *See, e.g.*, James F. Kurose & Keith W. Ross, *Computer Networking: A Top-Down Approach* 367 (5th ed. 2010) (noting that the DSCP field in IP packet headers "can be used to give priority to certain datagrams within a flow, or it can be used to give priority to datagrams from certain applications . . . over datagrams from other applications").

handling for the packets of unaffiliated VoIP providers with no last-mile facilities of their own but that wish to provide "managed VoIP" services to the broadband provider's customers over a logical path separate from any broadband Internet access those customers may receive. In that context, the broadband provider would supply a wholesale input, but the VoIP provider would own the customer relationship and design the higher-layer VoIP service. In fact, there are many permutations of services that network operators and VoIP providers can (and do) offer. For example, a broadband ISP could offer its customers a service that combines the attributes of managed VoIP when they connect through the ISP's last-mile network and nomadic over-the-top VoIP when they do not.

As discussed in our opening comments, it is by no means clear that, over the long term, "managed" VoIP services will continue to play a substantial role in the market for consumer-oriented voice services. Unlike more highly performance-sensitive services like Telepresence videoconferencing, plain-vanilla voice services do not need special handling to meet the expectations of mass-market customers. If they did, Skype and Vonage would not have succeeded in the market—indeed, Skype is the fastest-growing provider of international calling today and is rapidly displacing traditional international telecommunications services:[12]

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[12] *See* TeleGeography, *International Call Traffic Growth Slows as Skype's Volumes Soar* (Jan. 9, 2012), http://www.telegeography.com/press/press-releases/2012/01/09/international-call-traffic-growth-slows-as-skypes-volumes-soar/index.html ("In contrast to international phone traffic, Skype's cross-border traffic has continued to soar. TeleGeography estimates that cross-border Skype-to-Skype calls (including video calls) grew 48 percent in 2011, to 145 billion minutes. . . . Skype added 47 billion minutes of international traffic in 2011—more than twice as much as all the telephone companies in the world, combined.").

Figure 2: International LD traffic growth, Skype vs. telecommunications carriers
[Source: TeleGeography]

Because special handling is unnecessary to meet mass market expectations, the great majority of packet exchanges involving consumer-grade VoIP services may come to resemble the over-the-top calls discussed above, which even today use ordinary peering and transit arrangements to connect a VoIP provider's subscribers on one ISP network with the same VoIP provider's subscribers on a different ISP network.

As Comcast explains, moreover, even if some providers do continue to use special handling for plain-vanilla voice services, "technological changes" may well "blur the distinction" between "facilities-based" and over-the-top VoIP, including in the arrangements used for traffic exchanges. Comcast Comments at 27. Today, simply to preserve end-to-end QoS, managed VoIP providers often exchange managed VoIP traffic over interconnection links separate from those used for other IP traffic exchanges on the Internet. But that may well be a short-term phenomenon. As Comcast explains, "*all* VoIP traffic may ultimately be exchanged *pursuant to the same peering and transit arrangements as other Internet traffic*." *Id.* (emphasis added). Even pro-regulation commenters like XO agree that "the most efficient arrangements" for VoIP

traffic exchanges "may ultimately include co-mingling voice traffic over current IP peering arrangements."[13] In Sprint's words, in the fast-approaching all-IP world where "IP voice traffic will utilize a tiny fraction of capacity on IP networks," scale economies will strongly favor exchanging VoIP traffic in "locations where [providers] currently exchange[] non-voice IP traffic" rather than via "smaller (and much less efficient) interconnection facilities" used for the exchange of "IP voice traffic only."[14]

Even today, there is no reason in principle why two broadband ISPs offering managed VoIP services could not maintain end-to-end QoS by exchanging VoIP-related packets over the same peering links as they use to exchange all other IP traffic (including over-the-top VoIP calls) between their respective subscribers. The networks need to agree on procedures for marking the relevant packets for special handling on their respective networks, but there is no engineering impediment to such arrangements. Indeed, Comcast reports that "VoIP providers"—presumably including various cable companies—"have begun to enter into commercial IP-to-IP interconnection arrangements" under which they "exchange traffic at specified levels of prioritization." Comcast Comments at 20, 24. Comcast appropriately urges "the Commission not [to] interfere with these efforts with regulations that will distort the developing marketplace." *Id.* at 24-25. Precisely because the line between "managed" and "over-the-top" VoIP is so fluid,

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[13] XO Comments at 2; *see also* Cricket Comments at 12 ("[T]hese same Internet exchange points and peering and transit arrangements are already used to carry IP-voice traffic today.").

[14] Sprint Comments at 20, 22; *see also* Google, *The Tail Wagging the Dog: A Comparison of PSTN and IP Traffic From 1997 to 2015* (June 14, 2011), attached to Letter from Donna M. Lampert, Counsel to Google, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 10-90 *et al.* (filed June 16, 2011) (detailing how "standalone voice will represent a vanishingly small segment of overall [Internet] traffic"). Of course, IP networks have always exchanged *over-the-top* VoIP traffic through the same peering and transit arrangements they use for all other Internet traffic. Comcast, XO, and Sprint are making the further, quite valid point that the use of such "commingled" Internet-based facilities (XO Comments at 2) may well become common for the exchange of "managed" VoIP traffic as well.

Comcast is also right to warn that imposing interconnection rules on any VoIP services, including "managed" services, "could suddenly catapult the Commission into the regulation of the Internet backbone, even if it agrees, as it should, that this is a line it should and will not cross." *Id.* at 27.

A similar reason to fear the consequences of such rules is that the parties proposing them cannot articulate any persuasive limiting principle that would justify regulation of some, but not all, "IP-to-IP interconnection." In particular, although no commenter explicitly asks the Commission to begin regulating Internet peering and transit arrangements, that is the logical consequence of the policy rationales given for regulation of such interconnection. For example, Ad Hoc contends (at 7-8) that "dominant last mile service providers such as incumbent local exchange carriers and incumbent cable television operators have the ability to dictate terms of interconnection and intercarrier payments (or even to deny interconnection outright) unless constrained by regulation. The applications, content, and transport technologies that may be involved—TDM, IP, voice, data, video—do not alter this fundamental reality." If that were true, the Internet would be one giant market failure because broadband ISPs would be extorting anticompetitive fees from all interconnecting IP networks, including Tier 1 backbones. In fact, however, the Internet has been an exemplar of economic efficiency, and the money often flows in the opposite direction, as broadband ISPs pay Tier 1 backbones for access to Internet content. *See* AT&T Comments at 27-34 (explaining why there is no "terminating access monopoly" in the IP ecosystem).

Our point here is not so much that Ad Hoc's analysis is wrong, although it is. Our point is that Ad Hoc cannot articulate a rationale for "IP-to-IP interconnection" that excludes conventional Internet peering and transit from its scope. And this is true not only of Ad Hoc, but

of all the other parties that advocate regulation of IP-to-IP interconnection. Sprint, for example, persistently discusses voice-traffic exchange arrangements within the context of broader Internet peering policies and observes that, for interconnection purposes, it ultimately makes little sense to segregate the tiny portion of IP traffic dedicated to VoIP from all the other IP traffic exchanged through Internet peering and transit arrangements. Sprint Comments at 15, 22-23.

As explained in our opening comments, opening the door to peering and transit regulation would scuttle not only the Commission's longstanding hands-off policy towards the Internet, but the U.S. government's efforts to preserve that policy abroad as well. In particular, new U.S. initiatives to regulate IP traffic exchanges would subvert the current efforts of the Executive Branch to keep other nations from (in the words of NTIA Administrator Lawrence Strickling) "regulating peering and termination charges in order to compensate for lost telecommunication fees" under the auspices of the United Nations, thereby "jeopardiz[ing] the entire system" of market-based agreements that underlie the modern Internet.[15] Chairman Genachowski, too, recently warned of "the significant threat that international regulatory regimes, whether through the UN or some other organization, would stifle the growth of the Internet, which has fostered so much global innovation and economic growth."[16] Against that international backdrop, it would be highly counterproductive for *the United States* to begin regulating the terms on which one IP network interconnects with another. And as Comcast recognizes, the Commission could not avoid that risk simply by trying to confine any new regime of IP-to-IP regulation to elusive

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[15] Remarks of Assistant Secretary Lawrence E. Strickling at the Brookings Inst., *Principles for Internet Governance: An Agenda for Economic Growth and Innovation* (Jan. 11, 2012), http://www.ntia.doc.gov/speechtestimony/2012/remarks-assistant-secretary-strickling-brookings-institutions-center-technology.

[16] Remarks of Chairman Julius Genachowski, GSMA Mobile World Congress, at 8 (Feb. 27, 2012).

categories of "managed" VoIP traffic, given that, over time, such traffic may come to share the same packet-exchange arrangements as all other IP traffic on the Internet.[17]

2. *There Is No Market Failure That Could Justify Regulatory Intervention*

As discussed, there is no basis for concluding that IP networks will indefinitely exchange "managed" VoIP traffic separately from their general Internet peering and transit arrangements. But even if there were some basis for that conclusion, there would still be no justification for preempting market-based arrangements with government-imposed interconnection obligations.

Wherever policymakers look in the IP ecosystem, they see voluntary negotiations leading to highly efficient, pro-consumer interconnection arrangements. For example, when the U.S. government privatized the Internet backbone in the early 1990s, it imposed no interconnection obligations on any IP network. By the logic of today's pro-regulation commenters, that was a mistake. The government, these commenters would have said, needed to impose interconnection obligations on IP networks, as well as "good faith" bargaining requirements, lest larger networks break the whole system by anticompetitively discriminating against smaller ones. We now know that, fueled by efficient market dynamics, unregulated peering and transit arrangements have succeeded for twenty years in propelling the phenomenal growth of the Internet. And they have succeeded not in *spite of*, but *because of*, that lack of governmental interconnection and "good faith" bargaining obligations. As then-Chairman William Kennard noted in 1999, "the best decision government ever made with respect to the Internet was the decision that the FCC made . . . NOT to impose regulation on it. This was not a dodge; it was a decision NOT to

[17] Comcast Comments at 27; *see also* AT&T Comments at 18-20; CenturyLink Comments at 43 & n.88.

act."[18] And Congress itself has enacted that principle into federal law, declaring in 1996 that "the policy of the United States" is "to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, *unfettered by Federal or State regulation*."[19]

These Internet peering and transit arrangements are hardly the only examples of successful IP-to-IP interconnection in the absence of interconnection mandates. For example, as discussed in our opening comments (at 19-20), a number of IP networks have voluntarily entered into Telepresence exchange arrangements that provide end-to-end QoS for multiple participants connecting to one another through different IP networks. In addition, as Comcast suggests (at 20, 24), some of the nation's leading providers of managed VoIP services, presumably including cable companies, have struck deals to exchange voice traffic among their respective subscribers. And as discussed in our opening comments (at 20), mobile providers have entered into analogous cooperative agreements to exchange multimedia messages efficiently across different mobile platforms.

No governmental authority is compelling any of these traffic exchanges, but all these private networks, large and small, enter into efficient interconnection arrangements anyway because they all understand the benefits of doing so. For example, in the peering and transit context, smaller networks find it as easy to interconnect as larger ones because, for twenty years, larger networks have competed for the transit business of smaller networks, radically slashing transit prices in the process:[20]

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[18] William Kennard, *The Road Not Taken: Building a Broadband Future for America*, FCC (June 15, 1999), http://www.fcc.gov/Speeches/Kennard/spwek921.html.

[19] 47 U.S.C. § 230(b)(2) (emphasis added).

[20] DrPeering International, *Internet Transit Prices - Historical and Projected* (Aug. 2010), http://drpeering.net/white-papers/Internet-Transit-Pricing-Historical-And-Projected.php; *see also*

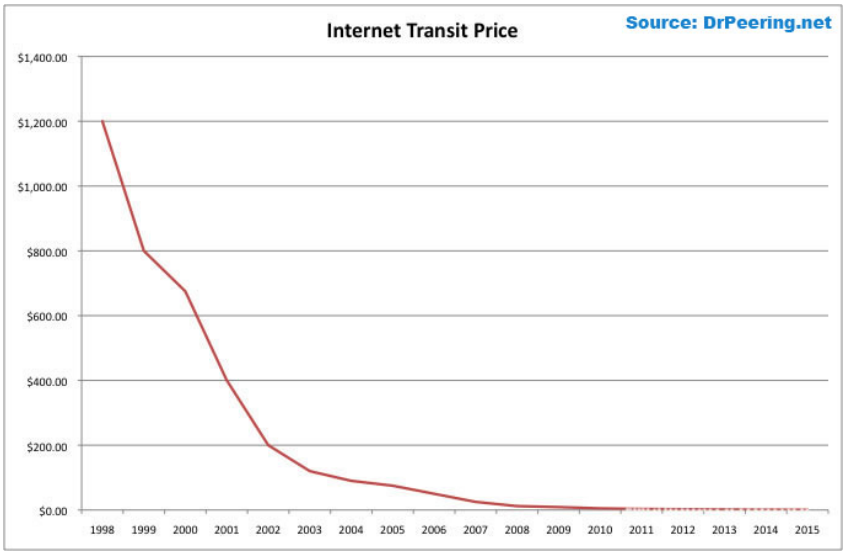

Figure 3: Transit prices per Mbps

Given this track record of success for voluntary IP-to-IP interconnection in every context where it has appeared, the Commission could not simply regulate IP-to-IP interconnection "for the exchange of voice traffic" on the assumption that such interconnection will otherwise fail. "Professing that an order ameliorates a real industry problem but then citing no evidence demonstrating that there is in fact an industry problem is not reasoned decisionmaking."[21] And the pro-regulation commenters have placed nothing in this record that remotely suggests any failure, in any context, of efficient interconnection between networks operating in IP format. At a minimum, before considering the imposition of IP-to-IP interconnection (or "good faith negotiation") regulations of any kind, the Commission would have to compile hard evidence of how IP-to-IP interconnection arrangements have played out in practice. And it would have to

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Telegeography, *Global Internet Geography* (Executive Summary), at 3 (2011), http://www.telegeography.com/page_attachments/products/website/research-services/global-internet-geography/0002/4221/telegeography-global-internet.pdf.

[21] *Nat'l Fuel Gas Supply Corp. v. FERC*, 468 F.3d 831, 843-44 (D.C. Cir. 2006); *see also ALLTEL Corp. v. FCC*, 838 F.2d 551, 561 (D.C. Cir. 1988) ("[A] regulation perfectly reasonable and appropriate in the face of a given problem may be highly capricious if that problem does not exist.") (internal quotation marks omitted).

begin by obtaining information from cable companies and others about the nature of the traffic-exchange agreements they have reportedly struck for their respective "managed" VoIP services.

3. *ILEC-Associated IP Networks Are Not "Dominant" in Any Relevant Market*

Even if there *were* some plausible basis for concern about market failures in this context, such concerns could not arise from the supposed "dominance" of *ILECs*, as many commenters appear to believe.[22] In the all IP-environment on which the Commission is rightly focusing, there are no "ILECs"; there are simply providers of broadband information services, and ILEC-associated ISPs may well continue lagging behind cable incumbents in their share of the market for those services. Indeed, as noted above, some analysts predict that cable companies will themselves monopolize the broadband access marketplace. *See* page 6, *supra*.

Nor could ILECs—particularly in the emerging all-IP environment—possibly dominate any higher-layer market for voice services, which even today are contested not only by conventional CLECs, but also by cable companies, mobile wireless carriers, and over-the-top VoIP providers. As noted in our opening comments, ILECs are hemorrhaging access lines to these intermodal competitors, and now serve only about a third of residential households:

[22] *See, e.g.*, Ad Hoc Comments at 7-8; Sprint Comments at 11; T-Mobile Comments at ii; TWC Comments at 16-18; YMax Comments at 10.

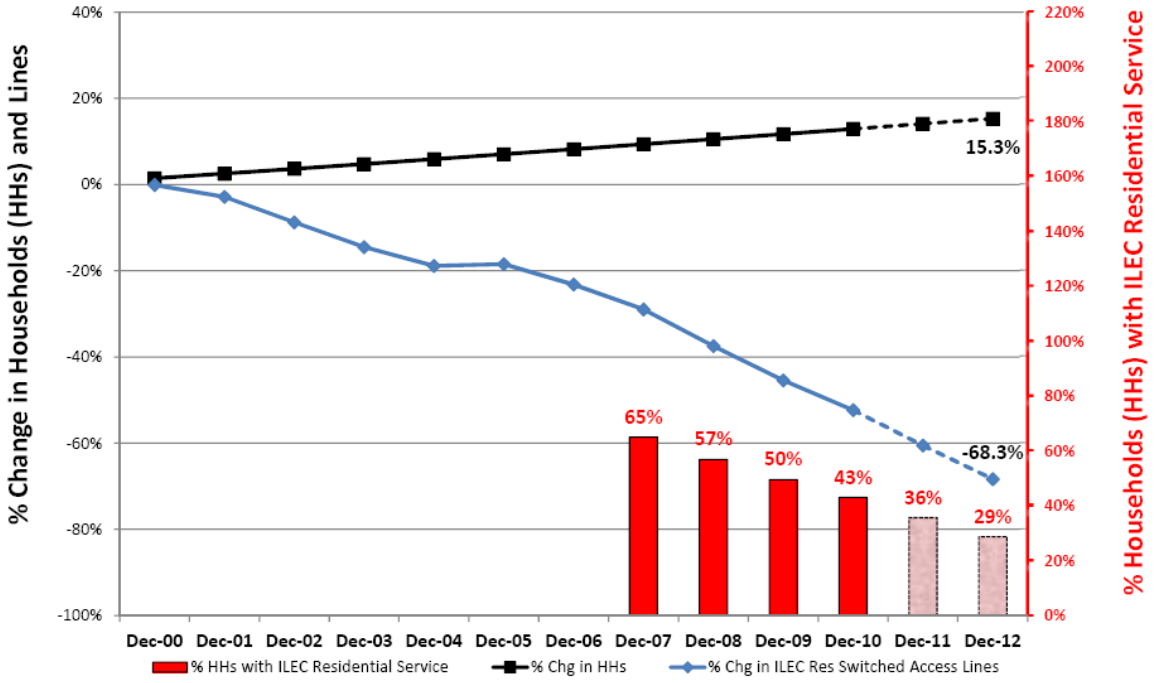

Figure 4: Share of households served by ILECs (AT&T States)
[Sources: census data and ILEC residential lines from FCC local telephone competition reports (with linear trending)]

Although T-Mobile elsewhere calls for perpetuating ILEC-specific regulation, even it acknowledges that "America's future competitiveness depends" on abandonment of "regulatory constraints designed for legacy companies that consumers are choosing to leave in droves." T-Mobile Comments at 2. We completely agree.

Some commenters try to obscure these points by noting that many VoIP calls today pass through TDM-based tandem switches and that ILECs (in addition to third party providers like Neutral Tandem and Level 3) own some of those switches.[23] But this is not evidence of ILEC "dominance" in any relevant market, and it could not possibly be the source of any market advantage as the industry moves towards an all-IP environment.

It is first necessary to review why, as a technological matter, even many VoIP-to-VoIP calls are still routed through TDM-based tandem switches. In a nutshell, this "TDM in the

[23] *See, e.g.*, Charter Comments at 21-22; TWC Comments at 20; RCN Comments at 3.

middle" phenomenon arises from the difficulty today of deriving IP routing information from ten-digit telephone numbers. Consider a call between two VoIP users who subscribe to different VoIP providers (say, Skype and Vonage) and different broadband providers. When one of those VoIP users places a ten-digit call to the other, the call typically makes a short detour through a tandem switch between the two ISP networks, where it is processed in the TDM format for which that switch is designed:

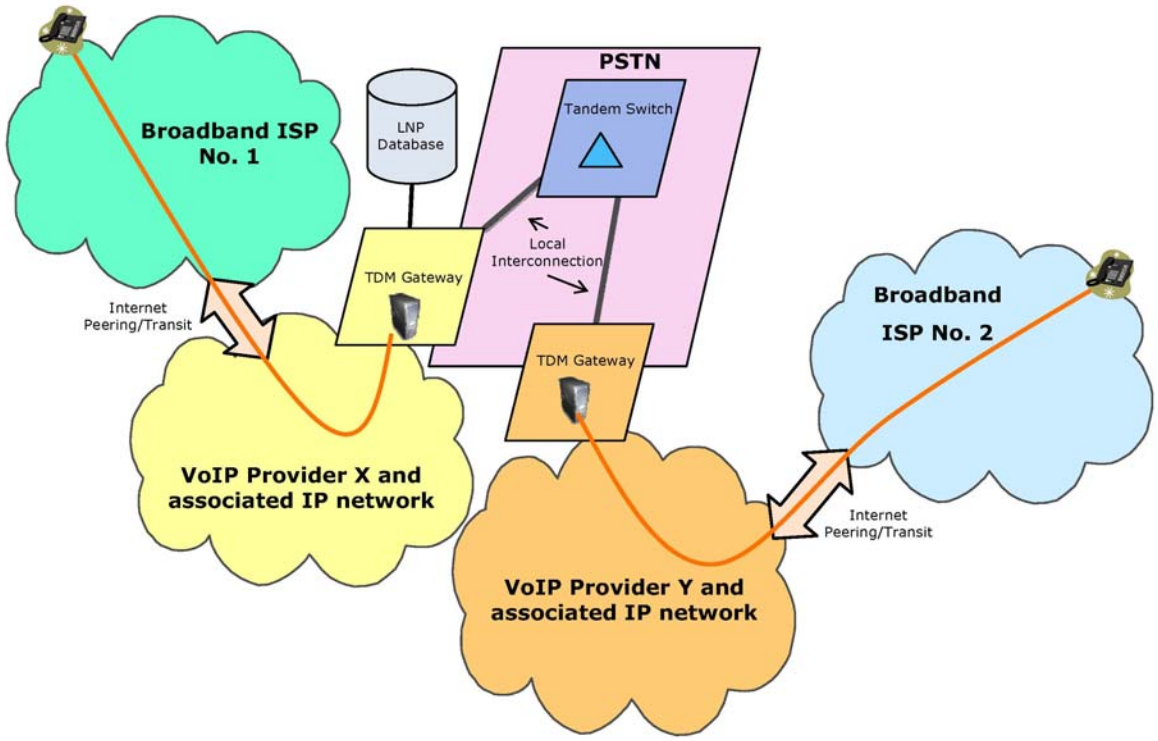

Figure 5: Typical routing today for calls between users of different VoIP services and different broadband ISPs

The TDM-conversion and tandem-switching function shown in the upper middle of this diagram may not necessarily be the most technologically efficient mechanism for connecting VoIP-to-VoIP calls. But given the ongoing reliance on ten-digit telephone numbers to identify VoIP users, VoIP providers continue to use this PSTN-based arrangement today as their primary method of routing number-based VoIP-to-VoIP calls in the absence of readily accessible

information about what IP addresses those numbers are proxies for. Specifically, the TDM gateway on the left queries a PSTN-oriented LNP database;[24] identifies the provider (shown in the bottom center) that has assumed responsibility for the called VoIP party's ten-digit phone number, and (via the tandem switch) routes the call to that provider, which in turn routes the call over the Internet to the called party. But this use of the PSTN for number-lookup and routing functions is a transitional phenomenon. It will likely disappear as more VoIP providers and their associated IP networks exchange directory information, either on a bilateral basis, as some cable VoIP providers are now reportedly doing, or perhaps on a more global basis, as the industry works towards ENUM-type solutions. *See* AT&T Comments at 32-34. Either way, once IP networks have access to each other's directory information, the routing for VoIP-to-VoIP calls will exclude the PSTN altogether and will often resemble the simplified, all-IP routing pictured in Figure 1 above (see page 10).

Citing today's interim TDM-in-the-middle arrangements, however, some pro-regulation commenters obliquely suggest that, even if ILEC-associated IP networks have no essential facilities in the last mile, ILEC ownership of tandem switches will nonetheless give them anticompetitive advantages even in an all-IP environment.[25] That is incorrect. Even today, markets for tandem-switched transit services are hardly monopolies; indeed, as Level 3 explains, they are not even particularly "difficult to enter." Level 3 Comments at 3. And ILEC tandem switches—typically, DMS and 5ESS switches first introduced in the late 1970s and early

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[24] Originally adopted to support local number portability, LNP databases identify the switch and therefore the carrier associated with a given ten-digit telephone number, and they thus provide routing instructions to the originating provider's switch to route the call to that switch. The routing instructions will direct the originating provider's switch to route the call to a third party tandem switch serving the switch associated with the dialed telephone number if the providers are not directly interconnected.

[25] *See, e.g.*, Charter Comments at 21-22.

1980s—are hardly sources of competitive advantage because they are falling rapidly into obsolescence. Level 3's own success as an alternative tandem-transit provider proves these points, as does the equally striking success of Neutral Tandem (Inteliquent). In fact, AT&T's experience suggests that Neutral Tandem may well surpass any ILEC as the leading provider of transit services for the interconnection of wireless carriers. As Neutral Tandem itself notes, it "provides competitive tandem services in 189 of the 192 LATAs" (Comments at 1 n.1); it has "179 carriers originating voice traffic and 191 carriers connected to our network";[26] it "is capable of connecting calls to an estimated 570 million telephone numbers assigned to carriers";[27] and "[d]uring the fourth quarter of 2011" alone, its "network carried 33.3 *billion* minutes of traffic."[28]

Some VoIP providers and their CLEC partners nonetheless seek regulatory caps on the rates that ILECs may charge for tandem-transit service. As discussed in Section III below, such rate regulation would have no legal or policy basis. Among other concerns, it would undermine the business models of transit competitors by giving their customers an artificially low-priced alternative to their services. That concern explains why leading transit competitors such as Neutral Tandem and Level 3 oppose such regulation.[29]

Just as important, tandem-transit rate regulation could only delay progress towards an all-IP environment. The pro-regulation commenters seek rate regulation of legacy tandem-

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[26] Neutral Tandem Inc., Form 10-K, at 8, 52 (Mar. 15, 2012) ("*Neutral Tandem 10-K*"), *available at* http://ir.inteliquent.com/secfiling.cfm?filingID=1193125-12-117219&CIK=1292653.

[27] *Id.*

[28] *Id.* (emphasis added).

[29] *See* Level 3 Comments at 2-4 (arguing against section 251/252 regulation of tandem transit services); Neutral Tandem Comments at 3-4 (noting that "if the Commission were to impose a bill and keep regime or cost-based end state on transit services by regulatory fiat, carriers would no longer be able to provide these services on a competitive basis").

switching services presumably because they are content to continue relying on ILECs to provide the TDM-based tandem-switching functions they perform today, even as more and more calls become VoIP-to-VoIP. But that is exactly why regulation in this area would be counterproductive. If the Commission forced prices for this legacy routing crutch down to artificially low levels, it would obstruct the transition to full IP-to-IP interconnection, because it would deprive VoIP providers of incentives to keep developing the collaborative systems necessary to exchange VoIP-to-VoIP traffic in IP format.

B. The Commission May Not Regulate Interconnection Between IP Networks

As noted, many commenters conflate two types of proposed regulations: (1) those governing interconnection between *two IP-based networks* ("IP-to-IP interconnection") and (2) those governing responsibility for IP-to-TDM conversion in *VoIP-to-PSTN* calls, where one party still provides service to its customers in TDM format. As discussed in our opening comments, these are different topics requiring different analyses, and that is as true of the legal as of the policy dimension. Section II below addresses the protocol-conversion issues raised in the VoIP-to-PSTN context, whereas this section addresses whether the Commission may regulate IP-to-IP interconnection, where the providers on *both* sides are offering IP-based services to their respective end users. As a general matter, the answer to that question is no.

1. *The Commission Lacks Title II Authority to Regulate Interconnection for the Exchange of Non-Title-II Traffic, Including VoIP*

As discussed in our opening comments, the "interconnection" provisions in the Communications Act—sections 201 and 251—apply only to "common carriers" (section 201) or "telecommunications carriers" (section 251), two terms that are synonymous for all relevant

purposes.[30] In particular, section 201(a) applies to "every common carrier engaged in interstate or foreign communication by wire or radio." 47 U.S.C. § 201(a). Section 251(a)(1) requires every "telecommunications carrier" to interconnect directly or indirectly with "other telecommunications carriers." *Id.* § 251(a)(1). And section 251(c)(2) allows a "requesting telecommunications carrier" to interconnect directly with the network of an "incumbent local exchange carrier." *Id.* § 251(c)(2).

As discussed in our opening comments (at 36) and in many prior filings, the Commission cannot regulate IP-to-IP interconnection under any provision of Title II because retail providers of VoIP and other IP-based services are properly classified as "information service" providers and are therefore *not* "telecommunications carriers." In brief:

- A telecommunications carrier is "any provider of telecommunications services" and "shall be treated as a common carrier under this [Act] only to the extent that it is engaged in providing telecommunications services," 47 U.S.C. § 153(51);
- The statutory categories of "telecommunications services" and "information services" are mutually exclusive, in that a service can be one or the other but not both;[31]
- VoIP services are "information services" because they are tightly integrated with other functionalities that allow end users to "generat[e], acquir[e], stor[e], transform[], process[], receive[e], utilize[e], or mak[e] available information via telecommunications," 47 U.S.C. § 153(24), and also because they involve net protocol conversions.[32]

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[30] *See* AT&T Comments at 35 (citing *Virgin Islands Tel. Corp. v. FCC*, 198 F.3d 921, 926-27 (D.C. Cir. 1999)).

[31] *See* Report to Congress, *Federal-State Joint Board on Universal Service*, 13 FCC Rcd 11501, 11522-23 ¶ 43 (1998); *see also* Declaratory Ruling and Notice of Proposed Rulemaking, *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, 17 FCC Rcd 4798, 4823-24 ¶ 41 (2002), *aff'd*, *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967 (2005).

[32] *See* AT&T Comments at 36 (citing Opposition of AT&T, *tw telecom inc. Petition for Declaratory Ruling Regarding Direct IP-to-IP Interconnection Pursuant to Section 251(c)(2) of the Communications Act*, WC Docket No. 11-119, at 3-8 (filed Aug. 15, 2011)); Verizon Comments at 27-29; Comments of SBC Communications Inc., *IP-Enabled Services*, WC Docket No. 04-36, at 33-42 (filed May 28, 2004); Reply Comments of SBC Communications Inc., *IP-Enabled Services*, WC Docket No. 04-36, at 22-26 (filed July 14, 2004); Comments of Verizon

Very few commenters urge the Commission to adopt the contrary conclusion—that VoIP is a telecommunications service and that VoIP providers are therefore telecommunications carriers subject to Title II regulation. Instead, there is a striking consensus that the Commission should *not* draw that conclusion. For example, Google, Skype, Sprint, and Vonage stress that "[m]any, if not most, IP-based voice services are properly classified as 'information services' as defined under the Act" because of the "'value-added' enhancements" that VoIP offers end users.[33] Nor would it be practicable for the Commission to split the baby by ruling that some IP-based voice services are "telecommunications services" and others are not. That approach would mire the Commission, and the industry, in intractable case-by-case disputes about what particular "enhancements" move a particular service over the line from a "telecommunications service" to an "information service." The result of that incessant line-drawing would be the type of regulatory gamesmanship and economic inefficiency that has plagued the PSTN, as providers adopt particular features to meet the evolving regulatory criteria rather than consumer demand. And the whole process would cast a pall of regulatory uncertainty across the entire industry, as telecommunications lawyers spend the next decade arguing with scholastic fervor about the fine details of statutory definitions written before anyone had heard of VoIP.

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and Verizon Wireless, *tw telecom inc. Petition for Declaratory Ruling Regarding Direct IP-to-IP Interconnection Pursuant to Section 251(c)(2) of the Communications Act, As Amended, for the Transmission and Routing of tw telecom's Facilities-Based VoIP Services and IP-In-The-Middle Voice Services*, WC Docket No. 11-119, at 14-20 (filed Aug. 15, 2011); Comments of Alcatel-Lucent, *tw telecom inc. Petition for Declaratory Ruling Regarding Direct IP-to-IP Interconnection Pursuant to Section 251(c)(2) of the Communications Act*, WC Docket No. 11-119, at 6-8 (filed Aug. 15, 2011); *see also* Verizon Comments at 26-29; CenturyLink Comments at 49.

[33] *Google White Paper* at 5 (citing prior comments by Sprint, Verizon, and AT&T); *see also* AT&T Comments at 36; Verizon Comments at 26-29; CenturyLink Comments at 49; Google Comments at 5 ("Congress has directed the FCC to keep information services unregulated (including many voice over IP ("VoIP") services that are properly classified as information services).").

Some commenters argue that, no matter how VoIP itself is classified, the Commission could lawfully order IP-to-IP interconnection for the exchange of VoIP traffic because, they say, interconnection involves "physical" facilities.[34] They therefore suggest that the Commission should distinguish between "facilities-based" and "over-the-top" VoIP providers, subjecting the former but not the latter to interconnection obligations and other forms of Title II regulation. That argument runs headlong into the statutory text, a major Supreme Court decision, and uniform Commission precedent. The applicability of Title II has never depended on whether providers of functionally equivalent services own last-mile facilities, and the statutory language forecloses any such "facilities ownership" distinction.[35]

That point is critical to this proceeding because it means that the Commission could not insulate "over-the-top" VoIP providers from any decision to treat "managed" VoIP providers as Title II carriers. As noted, only "telecommunications carriers" are subject to the obligations of sections 201 and 251, and only "telecommunications carriers" can invoke interconnection rights under section 251. Whether a given provider is a "telecommunications carrier" subject to these provisions depends on whether that provider is "offer[ing]" a "telecommunications service." 47

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[34] *See* Google Comments at 5; COMPTEL Comments at 17; Coalition for Rational Universal Service and Intercarrier Reform Comments at 15.

[35] This is why, for example, resellers of long-distance and mobile wireless services have been classified as "telecommunications carriers" subject to Title II even though they may not own or even lease facilities. *See, e.g.*, Declaratory Ruling and Report and Order, *Regulation of Prepaid Calling Card Services*, 21 FCC Rcd 7290, 7293-94, 7312 ¶¶ 10, 65 (2006) ("[A]ll prepaid calling card providers" "are subject to regulation as telecommunications carriers[.]"), *vacated in part on other grounds by Qwest Servs. Corp. v. FCC*, 509 F.3d 531 (D.C. Cir. 2007); Order to Show Cause and Notice of Opportunity for Hearing, *Nos Communications, Inc., Affinity Network Incorporated and Nosva Limited Partnership*, 18 FCC Rcd 6952, 6953-54 ¶ 3 (2003) (switchless long-distance reseller is subject to regulation under Title II); Report and Order, *Regulatory Policies Concerning Resale and Shared Use of Common Carrier Services and Facilities*, 60 FCC 2d 261, 265 ¶ 8 (1976) ("[A]n entity engaged in the resale of communications service is a common carrier, and is fully subject to the provisions of Title II."), *aff'd sub nom, AT&T v. FCC*, 572 F.2d 17 (2d Cir. 1978); *see also Trans Nat'l Commc'ns, Inc. v. Overlooked Opinions, Inc.*, 877 F. Supp. 35, 38 (D. Mass. 1994) (discussing 1976 order).

U.S.C. § 153(51), (53). That question in turn depends on what the provider "offer[s]" its customers, not on the underlying details concerning who owns what underlying transmission facilities. *See id.* § 153(24), (53).[36] As the Supreme Court has held, these statutory service definitions, which define the scope of Title II, "do not distinguish facilities-based and non-facilities-based carriers" because the integrated final product offered to customers is the same, and any regime that applies Title II regulation to "facilities-based" providers would necessarily "subject to common-carrier regulation non-facilities-based [providers] that own no transmission facilities."[37] As YMax, itself a competitive VoIP provider, concludes: "whether a carrier uses private or dedicated facilities or the public Internet to deliver IP-based traffic should have no bearing on that carrier's rights to IP interconnection." YMax Comments at 4.

Several commenters mistakenly rely on Commission precedent in an attempt to get around these statutory barriers to their policy preference for a "facilities ownership" distinction. Many repeat the Commission's statements that the provisions of Title II are "technology neutral."[38] That is true in many respects but irrelevant because, as the California PUC notes, the Act "is not also *service* neutral." California PUC Comments at 14 (emphasis added). Again, because providers of VoIP and other retail IP-based services offer "information services" and not "telecommunications services," the Commission may not regulate them under Title II. Other

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[36] *Brand X*, 545 U.S. at 990 (stating that "[i]t is common usage to describe what a company 'offers' to a consumer as what the consumer perceives to be the integrated finished product, even to the exclusion of discrete components that compose the product," and "[i]t would, in fact, be odd" to construe that term any other way); *see also* Comments of AT&T Inc., *Framework for Broadband Internet Service*, GN Docket No. 10-127, at 98-101 (filed July 15, 2010); Reply Comments of AT&T, *Framework for Broadband Internet Service*, GN Docket No. 10-127, at 43-50 (filed Aug. 12, 2010).

[37] *Brand X*, 545 U.S. at 994, 997.

[38] *See* YMax Comments at 4; XO Comments at 13; Charter Comments at 4; Cbeyond *et al.* Comments at 23; U.S. TelePacific Comments at 21; TWC Comments at 6; COMPTEL Comments at 16; Nebraska Rural Independent Companies Comments at 27.

commenters rely on various Commission precedents dealing with *telecommunications carriers*.[39] But those decisions turned on the fact that the carriers involved *were* providing pure Title II telecommunications services to their respective end users.[40]

Because retail providers of IP-based services do not offer "telecommunications services" and are therefore not "telecommunications carriers," none of the individual provisions of Title II apply to them. *See* AT&T Comments at 35-43. Briefly:

- Section 201 places certain duties only on "common carrier[s]," including the duty to interconnect with "other carriers" if the Commission "finds such action necessary or desirable in the public interest." 47 U.S.C. § 201(a). But information service providers are not such carriers. Indeed, the Communications Act affirmatively *bars* the Commission from "treat[ing]" an information service provider "as a common carrier" insofar as it is engaged in the provision of anything other than a Title II telecommunications service. *Id.* § 153(51). And generalized interconnection obligations are a form of common carrier regulation.[41]

- Section 251(a) requires every "telecommunications carrier" to interconnect directly or indirectly with "other telecommunications carriers." 47 U.S.C. § 251(a). But in the IP-to-IP context, neither provider is a "telecommunications carrier." Moreover, no party disputes that, even if section 251(a) did apply, it requires telecommunications carriers only "to interconnect directly *or indirectly* with . . . other telecommunications carriers."[42] A telecommunications carrier satisfies that duty so long as it allows for indirect

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[39] *See, e.g.*, XO Communications Comments at 12 (citing Order, *Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges*, 19 FCC Rcd 7457 (2004) ("*IP-in-the-Middle Order*"); Memorandum Opinion and Order, *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*, 22 FCC Rcd 3513, ¶ 1 (WCB 2007) ("*Time Warner Cable Order*")).

[40] *IP-in-the-Middle Order*, 19 FCC Rcd at 7457-58, 7461 ¶¶ 1, 7; *Time Warner Cable Order*, 22 FCC Rcd at 3520 ¶ 14.

[41] AT&T Comments at 41-42 (citing *Ad Hoc Telecomms. Users Comm. v. FCC*, 572 F.3d 903, 909 (D.C. Cir. 2009); *CSI Aviation Servs., Inc. v. U.S. Dep't of Transp.*, 637 F.3d 408, 415 (D.C. Cir. 2011)).

[42] 47 U.S.C. § 251(a)(1) (emphasis added and formatting altered).

interconnection and, in particular, does not block traffic delivered to it by an intermediary on the basis of the originating carrier's identity.[43]

- Section 251(c)(2) requires incumbent LECs "to provide, for the facilities and equipment of any *requesting telecommunications carrier*, interconnection with the local exchange carrier's network" "for the transmission and routing of telephone exchange service and exchange access." 47 U.S.C. § 251(c)(2), (c)(2)(A) (emphasis added). But because VoIP providers—as well as providers of other IP-based information services—are not "telecommunications carriers," they may not invoke interconnection rights under section 251(c)(2).[44]

Quite apart from the ineligibility of VoIP providers to invoke section 251(c)(2) rights, that provision cannot support IP-to-IP interconnection mandates for two independent reasons as well, each discussed in our opening comments (at 38-40). First, the party requesting interconnection, even if it *were* a "telecommunications carrier," would not be doing so for the purpose of providing "telephone exchange service and exchange access." VoIP is an indivisibly interstate, interexchange-type service,[45] and it does not fall within the statutory definitions of either "telephone exchange service" or "exchange access."[46] Second, the party against whom interconnection rights are invoked is unlikely to qualify as an "ILEC" subject to section 251(c) obligations, both (1) because ILEC affiliates operating new packet-switched, fiber-based

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[43] *See* AT&T Comments at 36-37; *see also* XO Comments at 18; Verizon Comments at 25-26; HyperCube Comments at 9.

[44] Charter appears to overlook this point in arguing that retail VoIP providers can obtain interconnection under section 251(c)(2) because VoIP providers offer "telephone exchange service" or "exchange access" regardless of the retail classification of the provider. Charter Comments at 5-6. But this gets the statutory analysis backwards. A provider must be a "telecommunications carrier" before the Commission can go on to determine whether that carrier is invoking section 251(c)(2) to provide the named services.

[45] *See* AT&T Comments at 38; First Report and Order, *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, 11 FCC Rcd 15499, 15598-99 ¶ 191 (1996) ("*Local Competition Order*"); 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, 22415-16, 22423-24 ¶¶ 20, 31 (2004), *aff'd*, *Minn. PUC v. FCC*, 483 F.3d 570 (8th Cir. 2007).

[46] *See* Verizon Comments at 30-31.

networks are not properly characterized as "successors or assigns" of legacy ILECs,[47] and (2) because ILECs themselves stop qualifying as ILECs when they no longer provide LEC services (telephone exchange service and exchange access), and VoIP is not such a service. *See* AT&T Comments at 39-40.

Those conclusions follow not only as a matter of law, but also as a matter of sound policy. Section 251 was designed for an era in which ILECs owned essentially the only pipes into the home capable of carrying voice traffic and other interactive signals. As discussed in Section I.A, ILECs and their ISP affiliates do not remotely occupy that position today. ILECs are losing telephone subscribers at an alarming rate, and cable companies lead in most markets for broadband IP services, including Internet access. *See* pages 6, 20-21, *supra*. While various pro-regulation commenters trot out their accustomed 1990s-era rhetoric in advocating ILEC-centric regulation, no commenter begins to explain how such regulation could make sense in the emerging all-IP environment where ILEC-associated companies are not even market leaders, let alone monopolists. In short, the inapplicability of Section 251(c)(2) obligations in that environment is not some type of windfall for ILECs; it is instead a long-overdue alignment of legal rules with commercial reality.

2. *Neither Section 706 Nor Ancillary Jurisdiction Can Provide the Commission with the Needed Authority*

Several commenters ask the Commission to invoke section 706 as a basis for regulating IP-to-IP interconnection.[48] But no one explains how such regulation could possibly promote the

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[47] As discussed in our opening comments (at 39 & n.65), *Association of Communications Enterprises. v. FCC*, 235 F.3d 662, 664 (D.C. Cir. 2001), is inapplicable here because it addresses only circumstances where the ILEC provides the same services as the legacy ILEC by means of the same facilities.

[48] 47 U.S.C. § 1302; *see* HyperCube Comments at 10; Sprint Comments at 10; T-Mobile Comments at 6-7; XO Comments at 14.

statutory objective of that provision—the stimulation of greater private investment in last-mile broadband infrastructure.[49] Although Sprint argues (at 2-3) that "interconnection"—in the abstract—is good for competition, that is not a logical basis for imposing interconnection *regulation*. As explained above and in AT&T's opening comments, the IP ecosystem has been characterized by ubiquitous interconnection for two decades, all in the complete absence of regulation. The question is whether inflicting regulation on that ecosystem for the first time would somehow stimulate additional private broadband investment. For the reasons discussed, it would not; indeed, it would have precisely the opposite effect. *See* Verizon Comments at 37-38. In any event, section 706 cannot trump section 153(51)'s specific prohibition on "treat[ing]" information service providers "as common carriers" by subjecting them to generalized interconnection obligations. 47 U.S.C. § 153(51); *see* page 30 and note 41, *supra.*[50]

A few commenters also argue that the Commission could regulate IP-to-IP interconnection under its Title I ancillary authority.[51] These arguments, too, are flawed. Sprint claims that regulating IP-to-IP interconnection will allow the FCC to pursue the same policies with regard to IP-based communications that it now pursues, under its statutory mandates, with regard to legacy telephone services.[52] But ancillary jurisdiction does not allow the FCC to extend old-style telecommunications regulation into the future even after industry changes divest

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[49] *See* AT&T Comments at 43; Verizon Comments at 35-38.

[50] Pro-regulation advocates also cannot rely on section 256(b), another provision in their grab-bag of statutory citations. As noted in our opening comments (at 43), section 256(b) is not an independent grant of authority to the Commission, and even if it were, it could not be invoked to regulate interconnection between two providers of information services.

[51] *See* T-Mobile Comments at 6-7; Sprint Comments at 6-7. Even some pro-regulation commenters express appropriate skepticism that the FCC has such authority. *See* Google Comments at 5; MetroPCS Comments at 16-17.

[52] *See* Sprint Comments at 6-8 (citing Reply Comments of Sprint Nextel Corporation, *In the Matter of Connect America Fund*, WC Docket Nos. 10-90 *et al.*, at App. D (filed May 23, 2011)).

the Commission of direct statutory authority to maintain such regulation. Rather, the Commission must explain why exercising ancillary jurisdiction is necessary to promote statutory policies in the area over which it *will* have direct statutory mandates.[53] That is not the case here. Again, a major objective of this proceeding is to phase out Title II PSTN service altogether, and the Commission cannot logically invoke its ancillary jurisdiction to hasten a transition to a world in which the objects of its direct jurisdiction no longer exist. Finally, even if the Commission had some coherent theory of ancillary authority, it would still confront the independent section 153(51) bar on subjecting information service providers to Title II regulation designed for common carriers. *See* AT&T Comments at 45.

II. THE COMMISSION SHOULD RESIST CALLS TO IMMEDIATELY IMPOSE THE ENTIRE COSTS OF IP-TO-TDM CONVERSION ON INCUMBENT LECS

In advocating regulation of "IP-to-IP interconnection," many commenters conflate the issues discussed above, which relate to traffic exchanged between two IP networks, with transitional issues concerning traffic that originates on an IP network and terminates on the PSTN. These commenters urge the Commission to immediately require circuit-switched voice providers to accept traffic in IP format and to bear the full costs of converting that traffic to TDM.[54] There is no sound policy or legal rationale for such an approach.

As an initial matter, the Commission has taken the steps needed for these protocol-conversion issues to resolve themselves without further regulatory intervention. By reducing and ultimately eliminating many intercarrier charges, the Commission has removed the artificial

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[53] *See Comcast Corp. v. FCC*, 600 F.3d 642, 654 (D.C. Cir. 2010) (finding that the Commission must demonstrate that "its regulation of an activity over which it concededly has no express statutory authority . . . is necessary to further its regulation of activities over which it does have express statutory authority").

[54] *See, e.g.*, California PUC Comments at 19; XO Comments at 16; YMax Communications Comments at 8.

incentive that carriers have had to maintain their circuit-switched networks simply to collect on their regulatory entitlement to intercarrier revenues.[55] The loss of this revenue stream will prompt carriers to move more quickly in replacing PSTN networks with more efficient IP technologies, thereby mooting any lingering disputes about who should bear the costs of IP-TDM conversion. And as discussed in our opening comments (at 48-50), the Commission could further hasten that transition by establishing a sunset date for the PSTN, after which remaining circuit-switched networks will lose their rights to demand interconnection with other providers.

If there were any question as to whether additional Commission intervention is needed, it would be answered by recent market developments. A number of ILEC affiliates *already* offer IP-based interconnection and transit solutions, enabling VoIP providers to drop their traffic off in IP format and have it terminated to *any* customer on the PSTN, not just customers of the interconnecting ILEC. These services also liberate IP providers from PSTN-centric obligations, such as the duty to interconnect in every LATA. For example, AT&T provides such a service (under the name "AVOICS") to more than a hundred service provider customers, including retail VoIP providers, wholesale VoIP providers, cable companies, CLECs, and Internet backbone providers. And other providers, such as Verizon and Level 3, offer similar services too. In short, IP providers not only have efficient means of exchanging traffic in IP format today, but soon will have many more options as ILECs transition to all-IP architectures.

No commenter offers a legitimate policy reason to disrupt such existing arrangements and immediately force circuit-switched providers to bear the costs of converting traffic from IP to TDM format. Some claim that ILECs are somehow acting anticompetitively by "imposing" unnecessary costs on their competitors simply because they have not yet replaced their legacy

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[55] *See Order*, 26 FCC Rcd at 17669 ¶ 9.

networks with IP technology.[56] But as CenturyLink states, "the reality is nothing so sinister."[57] Since ILECs "generally still serve[] . . . customers on TDM networks, conversion of VoIP calls to TDM *is needed* to terminate calls to those customers."[58] The only question is who should bear that necessary cost. And compelling TDM-based incumbent networks to shoulder the full costs of IP-to-TDM conversion today would be wholly arbitrary in light of those carriers' legacy service obligations. As AT&T has explained, ILECs are in many cases *required* to maintain TDM-based networks by state carrier-of-law-resort and other obligations.[59] These service obligations have compelled ILECs to continue investing in TDM-based architecture at the expense of investment in all-IP networks. Until those obligations are eliminated, it would make no sense to impose on ILECs alone the costs of IP-to-TDM conversion.

The Commission also has no legal authority to require circuit-switched carriers to accept traffic in IP format. As discussed, retail VoIP providers and other information service providers are not entitled to interconnect directly with LECs under section 251 because they are not "telecommunications carriers" and do not offer "telephone exchange service" or "exchange access."[60] Granted, state-certificated CLEC providers of wholesale telecommunications services that operate as bona fide common carriers may be entitled to interconnect with ILECs under

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[56] *See* NCTA Comments at 7; YMax Comments at 7; XO Comments at 16.

[57] CenturyLink Comments at 52.

[58] *Id.*

[59] *See* Comments of AT&T, *Connect America Fund et al.*, WC Docket Nos. 10-90 *et al.*, at 56 (filed Apr. 18, 2011) (citing state laws requiring providers to offer local dial tone service, rotary pulse dialing operability, dual-tone multi-frequency signaling, single-party service, SS7 signaling, and single-party revertive calling and federal requirements regarding access to interexchange service and access to operator and directory services).

[60] *See* page 31, *supra*; *see also* AT&T Comments at 47-48. Charter repeats its well-worn claim that section 251(c)(2)(A) is satisfied as long as the interconnecting *ILEC* is offering such services. Charter Comments at 7 n.20. That interpretation is directly contrary to the statute and Commission precedent, as AT&T has demonstrated. AT&T Comments at 38 & n.64, 48.

section 251. But the mere fact that such providers are entitled to "interconnection" does not resolve the question of whether they can drop off their traffic in IP format.

First, as Verizon argues, nothing in the Act requires ILECs to accept traffic in IP format.[61] The duty to interconnect is simply the duty to establish a "link" for the mutual exchange of traffic.[62] It does not include a duty to exchange that traffic in a certain format. Some commenters attempt to escape that conclusion by arguing that it is "technically feasible" for ILECs to accept traffic in IP format.[63] That is irrelevant. Section 251(c)(2) allows requesting carriers to select a technically feasible "point"—*i.e.*, physical location—of interconnection, not to dictate the format in which the ILEC must accept traffic. Other commenters suggest that they already have the right to hand off traffic in IP format because "[o]nce 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."[64] But even if CLECs may use interconnection arrangements to route VoIP-originated traffic, this does not mean that ILECs must accept that traffic in IP format and incur the costs of converting it to TDM for delivery to customers on the PSTN.[65]

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61 *See* Verizon Comments at 25-30.

62 *See* Section III.A.2, *infra.*

63 *See* Charter Comments at 4-5; Cbeyond *et al.* Comments at 22; U.S. TelePacific Comments at 21; NCTA Comments at 6.

64 *E.g.*, Charter Comments at 7.

65 T-Mobile asserts (at 6-7) that the Commission should exercise its *ancillary* authority to regulate interconnection "as a means of ensuring reasonable ILEC telecommunications service rates and practices" by "removing ILEC tollgates that raise telecommunications service costs and reduce efficiency." As explained above, this argument rests on the false premise that ILECs are somehow to blame for serving their customers in circuit-switched format and that IP-TDM gateways thus impose *unnecessary* costs. In any event, to the extent that T-Mobile has a legitimate complaint about the rates charged for true "telecommunications services," the Commission has ample authority, under section 201(a) and elsewhere, to address this concern without imposing costly IP-to-TDM conversion mandates.

Second, as AT&T and others have explained,[66] immediately imposing the entire costs of conversion on ILECs under section 251(c) would violate the Eighth Circuit's mandate in *Iowa Utilities Board*.[67] That court correctly interpreted the statutory language to prevent CLECs from demanding access to "a yet unbuilt superior" network.[68] And contrary to U.S. TelePacific (at 19), the Eighth Circuit made clear that *neither* section 251(c)(2) *nor* section 251(c)(3) allows access to a network "superior" to that of the ILEC's current network. In any event, even the *Local Competition Order* (which the Eighth Circuit invalidated in *Iowa Utilities Board*) does not contain the proposition attributed to it by those commenters that would force ILECs to bear the costs of IP-TDM gateways immediately.[69] The relevant passage states that an ILEC must "accept the novel use of, and modification to, its network facilities to accommodate the interconnector or to provide access to unbundled elements."[70] But this does not mean that ILECs must deploy costly and entirely new facilities, such as media gateways, to accept interconnection from a requesting carrier.

III. THE COMMISSION SHOULD NOT MANDATE RATE REDUCTIONS FOR TRANSIT AND OTHER SERVICES PROVIDED BY THIRD-PARTY CARRIERS

A. Rates for Transit Service Should Not Be Transitioned to Bill-and-Keep and, Indeed, Should Not Be Regulated at All

Essentially every commenter agrees that, even in a bill-and-keep regime, providers of PSTN-based tandem-transit services ("transit," as that term is used in this section) will need to

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66 AT&T Comments at 50-51; ITTA Comments at 8; CenturyLink Comments at 37; Verizon Comments at 32-33.

67 *Iowa Utils. Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997), *rev'd in part on other grounds*, 525 U.S. 366 (1999).

68 *Id.* at 813.

69 *See* XO Comments at 15; *see also* Charter Comments at 4-5; U.S. TelePacific Comments at 20.

70 *Local Competition Order*, 11 FCC Rcd at 15605 ¶ 202.

charge other carriers to recover their costs.[71] This makes abundant sense, because transit providers have no relevant end-user customers from whom to recover their costs, and thus their only means of cost recovery is intercarrier compensation. There is also no basis for regulation of intercarrier rates for transit services, which are robustly competitive in virtually all local markets.

1. *Bill-and-Keep Would Be an Incoherent Cost-Recovery Model for Transit Service*

Many commenters advocate greater regulation of transit service, but even they concede that it would make no sense to require transit providers to offer their services *for free* to other carriers.[72] Such a mandate would contravene the fundamental principle underlying bill-and-keep—that the costs of providing a particular service should be recovered from the end-user customers who benefit from that service. A transit provider, by definition, has no end-user customers for its transit traffic. Its sole function is to interconnect two other carriers indirectly and transfer traffic between them for the benefit of *their* end users.[73] Thus, transit providers must turn to those carriers to recover the costs they incur in providing transit service.[74] As Sprint

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[71] The only exception is RCN, and its comments do not offer a reasoned analysis on this issue. *See* RCN Comments at 2-4, 7-8. Indeed, RCN *opposes* a transition to bill-and-keep for "tandem switching and transport rate elements," but it argues that whatever transition ultimately applies to those elements should also apply to "tandem transit services." *Id.* at 2. Although MetroPCS calls for bill-and-keep in circumstances where transit traffic volumes are so low that they do not "justify undertaking a cost study to determine TELRIC cost," it advocates for "cost-based" rates in most circumstances. MetroPCS Comments at 3, 9-10.

[72] *See, e.g.*, Sprint Comments at 65; Comcast Comments at 7-9; Cbeyond *et al.* Comments at 11-14; NCTA Comments at 3-5 & n.7; Windstream Comments at 3, 8-12; Charter Comments at 3.

[73] *See, e.g.*, Neutral Tandem Comments at 3-4; Iowa Network Services & South Dakota Network Comments at iii, 7-8; CenturyLink Comments at 18; Minnesota Independent Equal Access Comments at 3 ("MIEAC's only customers for its tandem access service are other carriers. MIEAC has no end user customers and never interfaces directly with the called or calling party.").

[74] *See, e.g.*, CenturyLink Comments at 18 (transit "services are, by definition, provided by carriers that do not have an end user in the call flow. They must be able to obtain compensation

concedes (at 65), a "bill-and-keep arrangement will not work for transit service, because transit providers have no retail customers from which they can recover their transit costs."

Of course, some transit providers—such as Level 3 and large regional ILECs—do have end-user customers for *other* services they provide, including local exchange services. But those end users are not parties to the calls that such providers deliver in their transit capacity, and they neither benefit from those calls nor cause any of their costs. It would thus make no economic sense to force those end users to pay the transit costs caused by other carriers and their end users. Eliminating intercarrier compensation for transit service also would place a transit-providing carrier at a significant competitive disadvantage in the other markets where it competes, because only its customers would be forced to bear the costs of providing transit service for other carriers and *their* customers. In any event, regulatory constraints often keep ILECs from increasing end-user rates, and the limited ARC mechanism could not begin to serve as an adequate source of cost recovery for the termination rates reduced in the *Order plus* those for third-party transit services.

Nearly every commenter recognizes that the debate is not about whether transit should be provided for free ("at bill-and-keep"), but instead about whether transit rates should be regulated. Google, Level 3, Neutral Tandem, and a number of other commenters agree with AT&T that the transit market is sufficiently competitive that rates generally should be set by the marketplace, subject only to the Commission's general section 201 authority to ensure "just and reasonable"

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from other carriers. If not, the Commission will leave providers with no ability to recover their cost, will stifle competition and will create arbitrage opportunities."); Neutral Tandem Comments at 3-4; Minnesota Independent Equal Access Comments at 3-5.

rates.[75] Other commenters, however, ask the Commission to import price constraints on transit services, whether under TELRIC or some other mechanism.[76] As discussed below, there is no legal or policy basis for such price constraints.

2. *The Commission Lacks Authority to Subject Transit Service to TELRIC-Based Price Regulation Under Sections 251 and 252*

As explained in our opening comments, the Commission lacks authority to subject transit service to TELRIC rate regulation under sections 251 and 252.[77] First, transit service is not "interconnection" within the meaning of section 251(c)(2).[78] Longstanding FCC regulations define "interconnection" as "the linking of *two* networks for the *mutual* exchange of traffic."[79] In other words, interconnection refers to a "link" between two carriers that is "for" (*i.e.*, for the

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[75] *See, e.g.*, Google Comments at 4; Neutral Tandem Comments at 1-4; USTelecom Comments at 4-6; Level 3 Comments at 2-4, 7; Alaska Communications Systems Comments at 3; Minnesota Independent Equal Access Comments at 1, 3-6.

[76] *See* Notice of Proposed Rulemaking, *Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers*, 18 FCC Rcd 18945 (2003) ("*TELRIC Reform NPRM*") (discussed below at pages 47-48); *see, e.g.*, Cricket Comments at 2, 7-9 (arguing that the Commission should "clarify that transit is a section 251(c)(2) obligation that the ILECs must provide at cost-based (TELRIC) rates"); T-Mobile Comments at iii, 11-12 (calling for "cost-based rates"); Windstream Comments at 3, 8-12 (advocating rate cap of $0.0007 per minute); Sprint Comments at vi, 63-71 (calling for both TELRIC rates and an alternative FCC-established rate cap of $0.00035 per minute); Cbeyond *et al.* Comments at 3, 11-14 (advocating "cost-based rates" set by the FCC); Charter Comments at 3, 16-22 (calling for TELRIC rates); NCTA Comments at 3-5 (advocating "cost-based rates"); XO Comments at 6-7 (advocating cost-based rates); NECA *et al.* Comments at 18-19 (calling for rates to be set by state commissions).

[77] AT&T Comments at 59-60.

[78] That section imposes a duty on ILECs "to provide, for the facilities and equipment of any telecommunications carrier, interconnection with the local exchange carrier's network . . . for the transmission and routing of telephone exchange service and exchange access[.]" 47 U.S.C. § 251(c)(2).

[79] 47 C.F.R. § 51.5 (emphasis added); *see also Local Competition Order*, 11 FCC Rcd at 15590 ¶ 176 ("We conclude that the term 'interconnection' under section 251(c)(2) refers only to the physical linking of two networks for the mutual exchange of traffic.").

purpose of) mutually exchanging traffic between those two carriers.[80] As the Ninth Circuit has explained: "[I]nterconnection provides a way for a competitive LEC's customers to reach [an incumbent LEC's] customers and vice versa."[81] But when a carrier invokes section 251(c)(2) to obtain transit service from an ILEC, it is not "provid[ing] a way" for its customers to "reach" the ILEC's customers "and vice versa." Rather, it is invoking section 251(c)(2) in order to send traffic across the ILEC's network to a third network, that of the terminating carrier, and its customers.

Second, any "interconnection" obtained under section 251(c)(2) would not allow carriers to obtain transit *service* at cost-based rates. Transit is a routing and transmission service that consists of switching and/or shared transport (or, in some cases, dedicated transport) between two other networks. And under longstanding, judicially affirmed Commission precedent, "interconnection" under section 251(c)(2) does not include such "transmission and routing services."[82]

In the *Local Competition Order*, the Commission ruled that "interconnection" requires only a "physical link[]" and does not include the "transport and termination of traffic."[83] The Commission reaffirmed this conclusion in 2001, holding that "the term 'interconnection' refers

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[80] The court in *Southern New England Telephone Co. v. Perlermino* was therefore wrong when it interpreted this language as merely requiring that the link "be capable of the mutual exchange of traffic." 2011 WL 1750224, *6 (D. Conn. May 6, 2011). Rather, the Commission's rules clearly state that the interconnection be "for" that purpose.

[81] *Pac. Bell Tel. Co. v. Cal. Pub. Util. Comm'n*, 621 F.3d 836, 844 (9th Cir. 2010).

[82] *Competitive Telecomms. Ass'n v. FCC*, 117 F.3d 1068, 1071-72 (8th Cir. 1997); *see also AT&T Corp. v. FCC*, 317 F.3d 227, 234-35 (D.C. Cir. 2003); *MCIMetro Access Transmission Servs., Inc. v. BellSouth Telecomms., Inc.*, 352 F.3d 872, 878-79 (4th Cir. 2003) (refusing to interpret "interconnection" more broadly than "the physical act of connecting the networks").

[83] *Local Competition Order*, 11 FCC Rcd at 15590 ¶ 176. This principle is codified in the Commission's rules. *See* 47 C.F.R. § 51.5 ("interconnection" is "the linking of two networks for the mutual exchange of traffic. This term does not include the transport and termination of traffic.").

solely to the physical linking of two networks, and *not* to the exchange of traffic between networks."[84] And under section 251(c)(2), the required "physical link" is between the "requesting telecommunications carrier" and "the local exchange carrier's network"—that is, the network of the ILEC against which interconnection is invoked. 47 U.S.C. § 251(c)(2). Thus, once an ILEC provides the requesting carrier direct physical access to its network, the ILEC has fulfilled its duty under the statute. It has no additional obligation under section 251(c)(2) to provide "transmission and routing services"—*i.e.*, transit service—beyond that point of interconnection.[85]

Of course, when the interconnecting ILEC is also the *terminating* carrier, the statute does require the ILEC to transport and terminate the originating carrier's traffic, and to do so on rate terms defined by section 252(d). But the Commission has made clear that this obligation arises not from section 251(c)(2), but from section 251(b)(5).[86] And, contrary to the arguments of some commenters,[87] the latter provision does not apply to intermediate carriers in the transiting context. As AT&T demonstrated in its opening comments, section 251(b)(5)—and the corresponding rate prescription in section 252(d)(2)—relate only to compensation for services involving the "transport *and termination*" of traffic, and by definition intermediate third parties do not "terminate" traffic, 47 U.S.C. § 251(b)(5) (emphasis added).[88] Existing Commission regulations reinforce this conclusion, making clear that "transport," as used in section 251(b)(5),

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84 Memorandum Opinion and Order, *Total Telecommunications Services, Inc., and Atlas Telephone Company, Inc. Complainants, v. AT&T Corporation, Defendant*, 16 FCC Rcd 5726, 5736 ¶ 23 (2001) (emphasis in original).

85 *Competitive Telecomms. Ass'n*, 117 F.3d at 1071-72; *see AT&T*, 317 F.3d at 234-35; *MCIMetro Access*, 352 F.3d at 878-79.

86 *Local Competition Order*, 11 FCC Rcd at 15590 ¶ 176.

87 *See, e.g.*, Cbeyond *et al.* Comments at 3, 13; COMPTEL Comments at 12-13.

88 AT&T Comments at 59.

includes only situations in which the carrier providing the transport is also the terminating provider.[89] Court decisions, too, support this statutory interpretation. Indeed, even a decision cited approvingly by some pro-regulation commenters[90] states: "Section 251(b) applies to arrangements between an originating carrier and a terminating carrier. In the context of transit, the transiting carrier is not the originating or terminating carrier."[91]

In lieu of independent analysis, many of the commenters who favor subjecting transit to TELRIC pricing simply note that some state utility commissions have done so and cite two unpublished district court opinions upholding two of those commission decisions.[92] But the state commission decisions contain almost no reasoning, and the reasoning in both district court opinions is fundamentally flawed. First, the courts found that section 251*(a)*'s allowance of "indirect" interconnection would be rendered "meaningless" if incumbent LECs did not have a duty to provide intermediate transit service under section 251(c)(2).[93] That is quite obviously wrong: transit services have been ubiquitously available for decades despite the absence of prescriptive rate regulation in most states, and section 251(a) retains independent significance by

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[89] 47 C.F.R. § 51.701; *see also* Further Notice of Proposed Rulemaking, *Developing a Unified Intercarrier Compensation Regime*, 20 FCC Rcd 4685, 4737-38 ¶ 120 (2005) ("The reciprocal compensation provisions of the Act address the exchange of traffic between an originating carrier and a terminating carrier, but the Commission's reciprocal compensation rules do not directly address the intercarrier compensation to be paid to the transit service provider.").

[90] *See, e.g.*, NCTA Comments at 4; Charter Comments at 19-20 & n.60; Cricket Comments at 8 n.21; RCN Comments at 6; T-Mobile Comments at 11 n.26.

[91] *Qwest Corp. v. Cox Neb. Telecom, LLC*, 2008 WL 5273687, *3 n.8 (D. Neb. Dec. 17, 2008) (internal citations omitted); *see also Atlas Tel. Co. v. Okla. Corp. Comm'n*, 400 F.3d 1256, 1261 (10th Cir. 2005) ("Under the Act, reciprocal compensation is based solely on the costs of transport and termination incurred by the terminating provider.").

[92] *See, e.g.*, Charter Comments at 19; Comcast Comments at 9; Cricket Comments at 8; RCN Comments at 6.

[93] *Qwest Corp.*, 2008 WL 5273687 at *2; *S. New England Tel. Co.*, 2011 WL 1750224 at *4-5; *see also* Sprint Comments at 61-62.

generally precluding terminating carriers from blocking traffic delivered through a third party on the basis of the carrier originating the traffic. *See* pages 30-31, *supra.* The courts also reasoned that "[e]nsuring that carriers can obtain transit services at cost-based rates facilitates" the goal of the 1996 Act "to encourage competition among telephone service providers."[94] But as the D.C. Circuit observed when rejecting similar logic in the section 251(c)(3) context, the government may undermine rather than encourage competition by artificially capping the rates for one carrier's access to another network.[95] Here, artificial constraints on ILEC transit rates would undermine the entire business model for competitive transit services, as Level 3 and Neutral Tandem recognize in opposing such constraints. In short, the Commission should reject the conclusions of these district court opinions and follow through on the Wireline Competition Bureau's suggestion in the *Virginia Arbitration Order* that transit service prices fall beyond the scope of sections 251 and 252.[96]

3. *There Is No Policy Justification for Subjecting Transit to TELRIC-Based Rate Regulation*

Quite apart from these legal obstacles, there is also no sound policy reason for subjecting transit services to TELRIC rate regulation. As many commenters have documented, the transit marketplace is competitive in the vast majority of locations. Neutral Tandem (Inteliquent) notes, for example, that it "provides competitive tandem services in 189 of the 192 LATAs in the continental United States, and in Puerto Rico. The only LATAs in which [it] does not provide

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94 *Qwest Corp.*, 2008 WL 5273687 at *3.

95 *See U.S. Telecom Ass'n v. FCC*, 290 F.3d 415, 424-25 (D.C. Cir. 2002) (citing *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 428-29 (1999) (Breyer, J., concurring in part and dissenting in part)).

96 Memorandum Opinion and Order, *Petitions of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc. and for Expedited Arbitration, et. al.*, 17 FCC Rcd 27039, 27101 ¶ 117 (WCB 2002).

service are . . . Fishers Island, New York, an island off of the coast of Long Island[,] [and] . . . parts of the Navajo Nation." Neutral Tandem Comments at 1 n.1. Indeed, Neutral Tandem recently stated that it has "179 carriers originating voice traffic and 191 carriers connected to our network" and that "[d]uring the fourth quarter of 2011, our network carried 33.3 billion minutes of traffic" and "was capable of connecting calls to an estimated 570 million telephone numbers assigned to carriers."[97] Other competitive providers have a significant presence in the marketplace as well. Peerless Network notes that it "is now connected to nearly every major domestic carrier offering call origination and termination service in over 100 LATAs . . . and 30 MTAs."[98] And Level 3 has "approximately six million *active* telephone numbers that are being homed behind Level 3 Tandems, and a voice network that carries eight billion minutes per month and processes more than 80 million calls every day."[99]

Neutral Tandem observes (at 3 & n.8) that, as a result of the intense competition that it and other providers have brought to market, "prices for local transit service have fallen substantially."[100] Indeed, the marketplace is becoming even more competitive each day. In 2010,

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[97] *Neutral Tandem 10-K* at 8, 52; *see also* Neutral Tandem Inc., *Comments at the 14th Annual Needham Growth Conference* at 4:10 (Jan. 10, 2012), http://wsw.com/webcast/needham49/tndm/ (discussing volume of traffic and numbers of connected telephone numbers).

[98] Peerless Network — Company Overview, http://www.peerlessnetwork.com/about-us/company-overview/ (last visited March 26, 2012).

[99] Level 3 Tandem Service — Streamline Your Long Distance and Toll Free Connections, http://cdn1.level3.com/prod/App_Data/Replicated/MediaFiles/2/6/6/%7B2663E742-74DA-40F1-BE40-DA3348A984FB%7Dbrochure_tandem_service.pdf (last visited March 26, 2012) (emphasis added).

[100] *See also* Hamed Khorsand, BWS Financial, Inc., *IQNT: New name not as exciting as the Business*, at 2-3 (Mar. 14, 2012) ("The local transit business continues to face some price erosion. . . . We view the pricing issue a predicament of competition from smaller players and customers looking for better pricing.").

Neutral Tandem alone began offering service in 42 new markets,[101] and it noted in its annual report that "our tandem service business faces . . . increasing competition from certain other providers such as Level 3 Communications, Peerless Network and Hypercube, and we expect to compete with new entrants to the tandem services market."[102]

A number of commenters assert that the transit market is not competitive, but they generally offer no support for that proposition.[103] Sprint tries to patch this empirical hole with a non-sequitur, arguing that the transit market must not be competitive because "ILEC transit providers charge much higher prices in those states that have not yet addressed their statutory obligation to provide transit as compared to the TELRIC-based prices used in other states."[104] This makes no sense: the fault lies not in the competitive rates found in a deregulatory environment, but in the artificially below-market rates generated by TELRIC proceedings.

As the Commission conceded when it launched a still-pending TELRIC reform proceeding in 2003, that cost methodology "understat[es] forward-looking costs," "might not . . . achieve fully the Commission's goal of sending appropriate economic signals," is "excessively hypothetical," and leads to highly "variable results" in prices that do not in fact "reflect genuine cost differences."[105] Moreover, as USTelecom points out, transit rates negotiated in the free

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[101] Neutral Tandem, Form 10-Q, at 15 (Nov. 9, 2011), *available at* http://ir.inteliquent.com/secfiling.cfm?filingID=1193125-11-304064&CIK=1292653 ("*Neutral Tandem 10-Q*"); Comments of Neutral Tandem, *Connect America Fund et al.*, WC Docket Nos. 10-90 *et al.*, at 3 (filed Apr. 18, 2011).

[102] *Neutral Tandem 10-K* at 27; *see also* Baird Equity Research, *Inteliquent, Inc. (IQNT) Margin Pressure to Persist into 2012*, at 5 ("Competition increasing. Several private and public companies are currently competing with IQNT.").

[103] Time Warner Comments at 4; XO Comments at 6.

[104] Sprint Comments at vii; *id.* at 68-69; *see also* Cbeyond *et al.* Comments at 13; Comcast Comments at 8 n.16.

[105] *TELRIC Reform NPRM*, 18 FCC Rcd at 18947, 18949, ¶¶ 3, 6, 7; *see also id.* at 18947-49 ¶¶ 3, 4, 7 (noting that "key internal tensions" in the TELRIC methodology, together with the

market properly "account for such cost differences including the location of the tandem switch (urban vs. rural areas) and the utilization level of the tandem switch providing the intermediary service," whereas "[a] default rate established by regulation fails to account for the numerous factors that cause transit costs to vary and, accordingly, fail[s] to result in rates that are more closely aligned with costs." USTelecom Comments at 5-6. For all these reasons, the fact that ILECs sometimes charge higher transit rates where they are not subject to TELRIC does not mean that the transit market is uncompetitive; it is simply further evidence that TELRIC is deeply flawed. And the Commission could not reasonably expose transit services to TELRIC for the first time unless it first resolves the troubling questions it raised about that cost methodology when launching the still-pending TELRIC-reform proceeding in 2003.

Other commenters concede that the transit market is competitive in most places, but offer anecdotal evidence that it is not competitive in *all* places.[106] If true, that would not provide a basis for *nationwide* TELRIC-based regulation of transit rates by fifty different state commissions; instead, it would support limited FCC oversight under section 201 to ensure "just and reasonable" transit rates in those few places where competitive transit options are not available.[107] Any more aggressive approach would undermine the market positions of Neutral Tandem, Level 3, HyperCube, Peerless, and others that have made the transit marketplace as competitive as it is today. Few transit customers would pay the market-based prices offered by those providers if TELRIC regulation entitled them to pay below-market prices for the same

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"black box" nature of TELRIC-based cost studies in the states, may well lead TELRIC-based UNE rates to "understat[e] forward-looking costs").

[106] *See, e.g.*, NCTA Comments at 3-4; Cricket Comments at 6-7; Comcast Comments at 7; Charter Comments at 17.

[107] *See* Level 3 Comments at 3.

services offered by ILECs.[108] As Level 3 warns, "[t]ransit competition has developed in many areas and is still expanding. Imposing TELRIC price regulation now would freeze the development of transit competition."[109] Instead, the Commission should draw the same conclusion here that it did a dozen years ago when it declined to convert particular access services into TELRIC-priced network elements. Like the access services at issue there, transit services are competitive, and forcing down the rates for ILEC transit services "could undercut the market position of many facilities-based . . . providers" of competitive transit services.[110]

Finally, to promote such competition, the Commission should remove any further doubt about the legal status of transit services by exercising its forbearance authority now. Specifically, the Commission should forbear from the "cost"-based pricing standards in section 252(d) to the extent that a reviewing court later concludes that transit service is "transport" or "interconnection" within the meaning of section 251(b)(5) or 251(c)(2).[111] Such forbearance would be in the public interest for all of the reasons outlined above.[112]

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108 *See id.* at 2-3.

109 *Id.* at 2 ("Although the market is 'thin' in some areas due to the limited amount of traffic to those areas, the market is and can be competitive in most areas, and it is difficult to draw a line between those that are and can be competitive and those that cannot be competitive without freezing competition where it exists.").

110 *Supplemental Order Clarification*, 15 FCC Rcd at 9597 ¶ 18.

111 47 U.S.C. § 160(a); *see generally AT&T Inc. v. FCC*, 452 F.3d 830, 834-36 (D.C. Cir. 2006) (holding that the Commission has authority to grant "forbearance from uncertain regulatory obligations").

112 If the Commission ultimately concludes that transit service should not be subject to TELRIC, it should allow carriers to implement that conclusion through change-of-law provisions in their contracts and interconnection agreements. *See* CenturyLink Comments at 18 n.35. This would enable carriers to amend their agreements in states where they currently are required to provide transit at TELRIC rates. *Id.*

4. *Transit Providers Certainly Should Not Be Required to Supply Their Services at the Below-Cost Rates Proposed by Some Commenters*

Some commenters argue that transit rates should be limited to the rates that terminating carriers are permitted to charge for tandem switching and common transport.[113] But many terminating carriers use those rates to recover only traffic-sensitive costs, and they separately recover their *non*-traffic-sensitive costs from their end users. And because transit providers have no relevant end-user customers from whom they can recover their non-traffic-sensitive costs,[114] they must recover *both* types of costs through their transit rates. Thus, pegging transit rates to the rates for the identical functionality provided by the terminating carrier *on behalf of its own end users* illogically compares apples to oranges.[115]

Sprint notes (at 66) that, a decade ago, many ILECs agreed to reduce their reciprocal compensation rates for section 251(b)(5) traffic to $0.0007/minute in exchange for a corresponding reduction in terminating rates for ISP-bound traffic, and Sprint concludes that

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[113] *See, e.g.*, MetroPCS Comments at 10-11; COMPTEL Comments at 12; Sprint Comments at 64-67 & n.177; Windstream Comments at 11-12; NECA *et al.* Comments at 16-18; RCN Comments at 4.

[114] *See* footnote 73 and accompanying text, *supra.*

[115] Sprint takes this flawed argument a step further. *See* Sprint Comments at 65-68. Like other providers, Sprint inappropriately compares transit rates to rates charged by carriers terminating calls to their own end users. *Id.* at 66-67. Sprint then compounds this error by cutting those rates *in half* on the misguided assumption that such a reduction accurately captures the costs of tandem switching and common transport (by excluding the costs of end-office termination). *Id.* But even Sprint is able to cite only two states (Georgia and Massachusetts) where the TELRIC rates for tandem switching and common transport are lower than its proposed transit rate cap of $0.00035. *Id.* at 66 n.182. As an alternative justification for its rate cap, Sprint claims that the cap would be set at double AT&T's supposed "incremental cost of switching." *Id.* at 67. This calculation of tandem-switching costs would be doubly arbitrary, even beyond the threshold methodological problem discussed in the text, because (1) it is based on the costs of *end-office* switching using *softswitches* and (2) Sprint provides no reason to conclude that this figure represents the actual costs of tandem switching *plus* the common transport component that is generally included in transit service. Windstream's comparable analysis suffers from many of the same flaws, though it arrives at a much higher rate cap for transit service. *See* Windstream Comments at 11-12.

ILECs "would not have agreed voluntarily to use this 'ISP rate' if they believed the rate was below their actual economic costs" of tandem-switched transport plus termination. *Id.* That makes no sense. ILECs agreed to this low terminating rate only as the lesser of two evils. Had they insisted on recovering their actual costs for terminating reciprocal compensation traffic, they would have had to pay the *far higher* rates that CLECs were charging for termination of traffic to ISPs. Because those CLEC rates were far above costs, and the traffic was all one-way, ILECs concluded that even below-cost transport-plus-termination rates (if applied to both ILEC- and CLEC-terminated traffic) would be preferable to the status quo. In any event, ILECs often do not need to provide tandem switching and common transport when terminating non-access traffic—where, for example, an originating carrier interconnects at the ILEC's end office. Thus, the $0.0007 rate in many cases need recover *only* the costs of end-office switching and termination, and transit-type services never enter into the equation.

B. "Tandem Switching and Common Transport" Should Be Treated Like "Transit" When It Is Not Provided by Either the Sending or Terminating Carrier

As discussed in our opening comments, the functions at issue here—called "transit" in the non-access context and "tandem switching and common transport" in the access context—should be transitioned to bill-and-keep when provided by the *terminating* provider on behalf of its own subscribers.[116] Similarly, the sending carrier should not be entitled to charge any other carrier for providing these services, because it should bear the financial costs of transporting traffic to the terminating carrier's Edge. But a small number of commenters suggest that, in the access context, tandem switching and common transport should be transitioned to bill-and-keep

[116] This assumes, of course, that the tandem in question is the terminating carrier's Edge.

even when *neither the sending carrier nor the terminating carrier* provides that service.[117] Under this approach, even *third parties* would be required to provide such services for free to other carriers. For the reasons discussed above, this makes no sense in either context, whether "local" or "long-distance."[118] A carrier should be required to bear the costs of a service or function only if it is performing that service or function on behalf of end users with whom it has a commercial relationship; it cannot be expected to bear them on behalf of other carriers and *their* end users, from whom it can collect nothing.[119]

Curiously, some of these same commenters acknowledge that "transit" services should *not* be transitioned to bill-and-keep.[120] This is a baffling contradiction, because transit is merely third-party-provided tandem switching and transport in the non-access context.[121] And there is no legal or policy basis for treating third-party providers differently depending on whether the

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[117] *See* MetroPCS Comments at 3, 7-8 (proposing a prompt transition to bill-and-keep for "tandem switching and transport charges if the price cap carrier does not own the tandem in the serving area") (internal quotation marks omitted); Charter Comments at 15-16; T-Mobile Comments at ii-iii, 9-11 & n.21; *see also* COMPTEL Comments at 6 n.17, 8 n.24 (noting that it has appealed the Commission's adoption of bill-and-keep, but arguing that if the Commission nonetheless retains that rate methodology, it should apply to third-party tandem-switching and transport); *id.* at 12-13 (proposing a transition to bill-and-keep that "would apply to *all* ILEC tandem-switched transport rates, whether or not the same ILEC owns both the tandem and the end-office" and arguing that "[t]here is no legal basis to treat tandem-switched transport that is provided by a single ILEC (*i.e.*, when both the end-office and the tandem is owned by one LEC) differently than tandem-switched transport jointly provided by two ILECs").

[118] *See* Section III.A, *supra.*

[119] *See, e.g.*, CenturyLink Comments at 18 ("[B]oth local and intraLATA transit and access 'transit' . . . are . . . provided by carriers that do not have an end user in the call flow."); Minnesota Independent Equal Access Comments at 3-6.

[120] *See, e.g.*, MetroPCS Comments at 8-10; Charter Comments at 16-22; T-Mobile Comments at iii, 11-12.

[121] *See FNPRM*, 26 FCC Rcd at 18114 ¶ 1311; AT&T Comments at 58-59; CenturyLink Comments at 17.

traffic they carry is access ("long distance") or non-access ("local") traffic.[122] Indeed, the purpose of bringing all telecommunications traffic within the scope of section 251(b)(5) is to eliminate such arbitrary historical distinctions.[123]

IV. SENDING CARRIERS AND TERMINATING CARRIERS SHOULD BE RESPONSIBLE FOR ALL COSTS OF TRANSMITTING TRAFFIC ON THEIR RESPECTIVE SIDES OF THE NETWORK EDGE

Under AT&T's proposal, the terminating carrier would bear the costs of *all* forms of transmission and switching within its own network Edge. This would be true regardless of whether that service is classified today as dedicated transport, special access, tandem-switched transport, or termination. Thus, AT&T agrees with commenters who argue that many services for which terminating carriers charge today should ultimately be transitioned to bill-and-keep. At the same time, however, AT&T's proposal would permit terminating carriers to continue charging sending carriers when the former provide any of these services *outside* their Edges. Transitioning such "extra-Edge transmission" to bill-and-keep would make no sense and, indeed, would be inconsistent with the very notion of network Edges.

A. Terminating Carriers Should Bear the Costs of Transmission and Switching Only Within Their Network Edges

Some commenters argue that sending carriers should not be required to pay terminating carriers for *any* service performed after they have handed off their traffic at a physical point of

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[122] *See, e.g.*, CenturyLink Comments at 18 ("There is no reason to treat access 'transit' or JPSA services any differently.").

[123] Given this, there is no legal justification for imposing *TELRIC rates* on these providers either. Third parties providing tandem switching and common transport for access traffic do not terminate that traffic any more than transit providers terminate non-access traffic, and thus the service they provide does not fall within the meaning of "transport" under section 251(b)(5). And because these third parties shuttle traffic between two other providers that are connected indirectly, this service is not "interconnection" within the meaning of section 251(c)(2). *See* pages 41-44, *supra*.

interconnection.[124] To the extent these commenters are arguing that existing POIs should be defined as network Edges for purposes of bill-and-keep, this proposal is deeply flawed for the reasons detailed in Section V.B below. However, to the extent these parties are arguing that the sending and terminating carriers' financial responsibilities should not hinge on the location of the network Edge, their proposals are inconsistent with the very notion of an Edge.

Every coherent bill-and-keep proposal has used network Edges to demarcate where sending carriers can hand off traffic on a settlement-free basis—*i.e.*, where they incur no charge for any further transport and termination of their traffic.[125] And all of these proposals have provided that the *sending carrier* is financially responsible for delivering its traffic to those network Edges.[126] The sending carrier can discharge this responsibility through a variety of means, including by using its own facilities, or by paying to use the facilities of the terminating carrier or a third-party carrier.[127] But regardless of the option it chooses, the sending carrier cannot shift these costs to the terminating carrier, even if the latter uses its own facilities to

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[124] *See, e.g.*, XO Comments at 1, 4-8 ("XO expects . . . carriers will continue to exchange traffic as they do today . . . yet the current intercarrier compensation rates will no longer be assessed."); MetroPCS Comments at 3-5 (calling for "a prompt transition to bill-and-keep for all remaining inter-and intrastate rate elements"); Cricket Comments at 1, 3-6 (same); Cbeyond *et al.* Comments at 3, 9-11 (calling for all terminating transport rates to be reduced to zero); Charter Comments at 15-16 (same).

[125] *See, e.g.*, Ex Parte Brief of the Intercarrier Compensation Forum in Support of the Intercarrier Compensation and Universal Service Reform Plan, *Developing a Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, at 20-22, 50-52 (filed Oct. 5, 2004) ("*ICF Legal Brief*"); Patrick DeGraba, *Bill and Keep at the Central Office As the Efficient Interconnection Regime*, FCC Office of Plans and Policy, OPP Working Paper No. 33, at 8-13 (Dec. 2000), http://transition.fcc.gov/Bureaus/OPP/working_papers/oppwp33.pdf ("*DeGraba Paper*").

[126] *See, e.g.*, *ICF Legal Brief* at 20 n.35, 51-52; *DeGraba Paper*, *supra* note 125, at 10, 12.

[127] *See, e.g.*, CTIA Comments at 6 ("The non-terminating carrier's obligation to bear all costs associated with bringing traffic to the network edge does not entail an obligation to carry such traffic itself.").

bridge the gap between the two carriers' networks.[128] Instead, the terminating carrier bears financial responsibility for traffic *only* within its own network Edge.[129] Indeed, this is simply what it means to define an Edge.

Allowing terminating carriers to charge for any services they provide outside their network Edges makes abundant policy sense. First, eliminating (or significantly reducing) rates for extra-Edge transmission would destroy competition in the transport marketplace. Numerous providers offer competitive transport services in both the access and non-access contexts.[130] And, as CenturyLink notes, "[i]f the Commission reduces or eliminates the ability to charge for such functionality it will only stifle such competition as carriers will be disincented from further building out these facilities." CenturyLink Comments at 15. The Commission should endeavor to promote competition through this proceeding, not suppress it.

Second, and contrary to the arguments of some commenters, permitting carriers to charge for services provided outside their network Edges will not enable terminating carriers to shift their costs from end-office termination to transport.[131] The *Order* capped rates for *all* terminating rate elements, including both common and dedicated transport, whether provided in the access or reciprocal compensation contexts.[132] And "[t]he capping of charges for these

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128 *See, e.g.*, CenturyLink Comments at 21 n.47; CTIA Comments at 6.

129 As discussed in AT&T's opening comments, this principle does not apply when the *terminating* carrier insists on physical interconnection at a location other than the default network Edge (*i.e.*, the terminating carrier designates an "Alternative Edge"). In that case, the terminating carrier should bear the costs of all transmission on its side of the Alternative Edge. Essentially, the terminating carrier's "transport" obligation would encompass the function of carrying traffic from the Alternative Edge to the end-office switch serving the called party. *See* AT&T Comments at 63 n.115, 64 n.118, 68 n.133; *id.* at Appendix A, §§ 3.c.i-iii.

130 *See, e.g.*, Neutral Tandem Comments at 4; CenturyLink Comments at 15.

131 *See, e.g.*, Cricket Comments at 3; TWC Comments at 4, 20.

132 *Order*, 26 FCC Rcd at 17934 ¶ 801 (stating in text that "at the outset of the transition, all interstate switched access and reciprocal compensation rates will be capped," and specifying in

services already addresses any concern that carriers will have incentive to shift costs to these elements from end-office functions." CenturyLink Comments at 15. What is more, many rate elements will be transitioning to bill-and-keep, including all reciprocal compensation and all tandem switching and common transport provided by the terminating carrier.[133] As the Commission noted in the *Order*, these combined reforms will prevent terminating carriers from increasing transport rate elements to compensate for losses in other terminating rate elements.[134]

Furthermore, charges for extra-Edge transmission are fully consistent with the principle of competitive neutrality. A couple of commenters contend otherwise, claiming that this approach will put CLECs on a "path to zero" revenues from intercarrier compensation, while ILECs will continue to charge other carriers for various terminating rate elements, including dedicated transport.[135] These commenters are misguided in both respects. Under AT&T's plan, any CLEC that provides extra-Edge transmission will be compensated for doing so.[136] Further, terminating ILECs that own tandems will lose *all* intercarrier compensation for transport (and

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rate chart that "[a]ll intercarrier switched access rate elements, including interstate and intrastate originating and terminating rates and reciprocal compensation rates are capped" as of the rules' effective date); *id.* at 17933 ¶ 800 (stating that the *Order* caps "all interstate switched access rates . . . , including all transport rates"); *id.* at 17943 ¶¶ 819-21 (stating that the *Order* caps all transport elements, including dedicated transport); *see also id.* at Appendix A, Final Rules, at 18168, 18170-73 §§ 51.903, 51.907.

[133] *Order*, 26 FCC Rcd at 17934, 17943 ¶¶ 801, 819; *FNPRM*, 26 FCC Rcd at 18112 ¶ 1306 & n.2358.

[134] *Order*, 26 FCC Rcd at 17932-33 ¶ 798 (noting that capping "ensures that no rates increase during reform, and that carriers do not shift costs between or among other rate elements").

[135] COMPTEL Comments at iii-iv, 3-5; *see also* Cbeyond *et al.* Comments at 9-11; XO Comments at 5.

[136] A CLEC could provide such service when, for example, another carrier elects to drop its traffic off at a different CLEC end office than the one serving the called party. Alternatively, the CLEC could self-provision a two-way transport pipe that another carrier uses to deliver its traffic to the CLEC's network Edge.

switching) from those tandems to subtending end offices—regardless of whether that transport is switched or dedicated—because those tandems will be their network Edges. In any event, this "competitive neutrality" argument simply ignores the fact that many CLECs have elected not to build out their networks and have chosen to make use of ILEC facilities instead. Thus, the costs that these commenters fault ILECs for seeking to recover through extra-Edge transmission are costs that CLECs themselves generally *do not bear* today and *will not bear* under AT&T's plan, which makes sending ILECs responsible for the costs of transmitting traffic to CLECs' *end offices.*

Finally, allowing terminating carriers to continue charging for extra-Edge transmission will appropriately limit the size of the recovery mechanisms established in the *Order*. There is no reason to reduce these intercarrier rates now and put even greater pressure on universal service contributions or the ARC end-user charge. Instead, the Commission should undertake a transition to bill-and-keep that minimizes the potential burden on consumers.

Of course, the foregoing analysis demonstrates only that a terminating carrier should be entitled to charge *something* for extra-Edge transmission; it does not resolve what the rate for that service should be. As AT&T explained in its opening comments, the rates for this service should be set by the marketplace where competition exists—or, where that service takes the form of special access, by the Commission's existing special access rules. AT&T Comments at 63-67. And competition exists in most places today. *See* CenturyLink Comments at 15. Moreover, even where competition has yet to take root, there generally is no need to regulate the rates for extra-Edge transmission. The facilities used to provide such service are not loops deep within the terminating carrier's network, but instead are large-volume pipes located outside the network Edge. The sending carrier can construct these types of facilities readily and cost-effectively if

the terminating carrier charges supracompetitive rates. Finally, if rates for extra-Edge transmission ever exceed competitive levels in a particular area, the Commission can remedy such isolated market failures through its authority under section 201.

B. Entrance Facilities Should Be Regulated in the Same Way as All Other Extra-Edge Transmission

Some parties focus their attention on "entrance facilities," a form of extra-Edge transmission used to connect two carriers' networks.[137] There are no grounds for arguing that entrance facilities should be provided on a bill-and-keep basis. Indeed, the Commission should conclude that terminating carriers need not provide such facilities at TELRIC rates either.

No commenter argues that terminating carriers should be required to provide entrance facilities for free to other carriers. Instead, as with transit service, the only issue in dispute is what rates terminating carriers (or third-party carriers) should be permitted to charge for providing entrance facilities. Several commenters ask the Commission to "reaffirm that ILECs must provide entrance and other interconnection facilities at TELRIC rates."[138] But none denies that, as the Supreme Court has held, "[n]o statute or regulation squarely addresses whether an incumbent LEC must provide access to entrance facilities at cost-based rates as part of its interconnection duty under § 251(c)(2)."[139] And, for the reasons discussed in AT&T's opening

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[137] *See, e.g.*, Sprint Comments at vi, 41, 63-64; Cbeyond *et al.* Comments at 11; T-Mobile Comments at iii, 15-16. "Entrance facilities" are the facilities that link the sending carrier's network to the point of interconnection on the terminating carrier's network. Because these facilities are, by definition, located outside the terminating carrier's network Edge, transmission over them constitutes a subset of the broader category of extra-Edge transmission.

[138] *See, e.g.*, T-Mobile Comments at 16; *see also id.* at iii, 15-16; Sprint Comments at vi, 33-34, 41, 63-64; Cbeyond *et al.* Comments at 11.

[139] *Talk America Inc. v. Michigan Bell Tel. Co.*, 131 S. Ct. 2254, 2260 (2011); *see also* Sprint Comments at 44 (noting Supreme Court's finding that "neither the interconnection statute nor the FCC's implementing rule explicitly addresses whether an ILEC must provide access to interconnection facilities at cost-based rates as part of its interconnection duty").

comments, the Commission should now decide that entrance facilities used to link the sending carrier's network to the point of interconnection on the terminating carrier's network need *not* be provided at TELRIC rates pursuant to sections 251(c)(2) and 252(d)(1).

The Commission has ample authority to draw that conclusion, as AT&T has explained.[140] Briefly, section 251(c)(2) requires only that ILECs "provide, for the facilities and equipment of any requesting telecommunications carrier, interconnection with the local exchange carrier's network." 47 U.S.C. § 251(c)(2). As the Supreme Court stated in *Talk America*, this statutory language does not "require that incumbent LECs lease facilities to provide interconnection."[141] In fact, section 251(c)(2) "does not mention incumbent LECs' facilities" at all. *Id.* Rather, it mandates "only that incumbent LECs provide interconnection 'for the facilities and equipment of any [competing] carrier.'" *Id.* Finding no clear statutory or regulatory guidance, the Supreme Court in *Talk America* deferred to the General Counsel's views in the Commission's amicus brief. *Id.* at 2257, 2265.[142] But the Commission could easily conclude that an ILEC's obligation under section 251(c)(2) is merely to enable competitors to connect their *own facilities and equipment* to the ILEC's network at an interconnection point and not to "provide" facilities of its own for doing so.

This interpretation also makes abundant policy sense. As AT&T has explained, sending carriers can readily purchase entrance facilities from third-party carriers or, alternatively, construct their own entrance facilities. Indeed, this was the Commission's rationale for

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140 *See* AT&T Comments at 64-66.

141 *Talk America*, 131 S. Ct. at 2260.

142 T-Mobile is wrong (at 15) when it asserts that the Supreme Court's opinion deferred to the *Triennial Review Remand Order* itself. In fact, the Court found that the order was ambiguous and deferred to the interpretation of the order contained in the government's brief.

concluding that entrance facilities need not be offered as unbundled network elements.[143] It therefore makes no sense to continue requiring ILECs to provide entrance facilities at TELRIC rates as part of their statutory "interconnection" obligations irrespective of competitive conditions.[144]

V. THE COMMISSION SHOULD ADOPT AT&T'S PROPOSED EDGE REFORMS

Most of the commenters in this proceeding ignored the Commission's call for concrete proposals concerning the designation of network Edges. And those commenters that did put forth Edge proposals generally advocated extremely lopsided approaches that favor their own business interests but make no sense for the industry as a whole. If the Commission were to adopt any of these proposals, it would uproot existing interconnection arrangements and spawn multitudes of PSTN-focused disputes, even as the PSTN loses relevance. In contrast, AT&T's Edge proposal is efficient and competitively neutral and would provide stability and a rational compensation regime for the few years that remain before the industry transitions to a more efficient IP architecture.

A. Adoption of AT&T's Proposed Edge Reforms Would Not Require Any Changes to Existing Rules Regarding *Physical* Points of Interconnection

Although some commenters advocate Edge proposals that would require changes to existing interconnection arrangements, the vast majority of commenters ask the Commission to

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143 *See* Order on Remand, *Unbundled Access to Network Elements; Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, 20 FCC Rcd 2533, 2610-12 ¶¶ 137-41 & n.395 (2005) ("[The] record shows that self-deployment or alternative wholesale provisioning of entrance facilities are viable alternatives given the possibilities for traffic aggregation and efficient location of competitive LEC switches.").

144 If the Commission reduces rates for extra-Edge transmission, it should give carriers an opportunity to recover their lost revenues. Intercarrier charges recover real network costs, and carriers must recoup those costs through either end-user charges or universal service support if they are to avoid reductions in the scope or quality of their service offerings.

preserve the existing rules regarding physical interconnection. Adoption of AT&T's proposal would be consistent with the latter approach.

Commenters representing a broad cross-section of the industry urge the Commission not to alter existing law with respect to interconnection. On one end of the spectrum, CLECs and wireless carriers argue that the Commission should retain the "one . . . POI per LATA" rule that allows them to interconnect physically at just one point on an ILEC's network.[145] They also seek to retain their right to demand interconnection at "any technically feasible point" on an ILEC's network.[146] On the other end of the spectrum, rural ILECs that are exempt from section 251(c)(2) urge the Commission not to subject them to the more burdensome regime that applies under that provision and the Commission's implementing rules.[147]

AT&T's Edge proposal is fully consistent with these requests. Indeed, AT&T's plan would preserve the interconnection rights of *all* carriers under existing law. Commenters who express concern that the Commission would somehow interfere with those rights if it were to define network Edges are conflating the distinct concepts of Edges and physical points of interconnection.[148] As AT&T explained in its opening comments, POIs and Edges are often

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[145] *See, e.g.*, COMPTEL Comments at iv, 2, 9; Sprint Comments at 28-29; Cbeyond *et al.* Comments at 4, 14-16; MetroPCS Comments at 3, 10-11; Charter Comments at 10, 13-14; XO Comments at 7-8.

[146] *See, e.g.*, Sprint Comments at 28-29; Cbeyond *et al.* Comments at 4, 14-16; Charter Comments at 2-3.

[147] *See, e.g.*, Nebraska Rural Independent Companies Comments at v, 20-24.

[148] *See, e.g.*, Cbeyond *et al.* Comments at 4, 16 (arguing that the Commission's establishment of network Edges "would deprive competitors of their statutory right to interconnect at any technically feasible point in the incumbent LEC network, including at a single POI per LATA"); Sprint Comments at 28-29 (using "POI" and "network edge" interchangeably); XO Comments at 7; MetroPCS Comments at 11-12; Charter Comments at 13-14.

located in different places in a bill-and-keep regime.[149] The POI is the location where two carriers physically interconnect for the exchange of traffic. By contrast, the Edge is the *financial* point of interconnection, where one carrier's responsibility for the costs of traffic ends and another's begins. As the Commission and some commenters have conceived of it, the Edge is the point where "bill-and-keep applies."[150] And AT&T's proposal would dictate only the location of the Edge, not the *physical* point of interconnection for any carrier. Carriers could continue to demand interconnection in the same locations they do today, and *only* in those same locations.

B. AT&T's Network Edge Proposal Is the Most Efficient and Competitively Neutral Approach

To ensure efficiency and competitive neutrality, AT&T's proposed framework would permit different types of carriers to establish network Edges in different locations.[151] ILECs owning access tandems would be required to designate those tandems as their Edges for all customers served by subtending end offices.[152] This approach would dramatically reduce the number of ILEC Edges to which other carriers would be required to deliver their traffic. It also would eliminate the need for sending carriers to pay ILECs for tandem switching and common (or dedicated) transport between the tandem switch and the called party's end office. At the same time, AT&T's proposal would permit other LECs that do not own a relevant tandem to designate their end offices as Edges.[153] This rule would appropriately reflect the less hierarchical

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149 *See* AT&T Comments at 6-7, 63.

150 *FNPRM*, 26 FCC Rcd at 18117 ¶ 1320; CenturyLink Comments at 21.

151 *See* AT&T Comments at 68-69; *id.* at Appendix A, § 1.d.ii (detailing specific rules for establishment of network Edges under AT&T's plan).

152 *Id.* at Appendix A, § 1.d.ii.2.

153 *Id.* § 1.d.ii.1.

network structures of CLECs as compared to ILECs. Further, AT&T's proposal also would accommodate the needs of other types of providers by establishing default Edge locations on those providers' networks—such as mobile switching centers and points of presence—where it is both technically feasible and efficient for a terminating carrier to handle a large volume of traffic bound for customers located across a wide geographic area.[154] These proposals strike a reasonable middle ground between bill-and-keep proposals that would designate every carrier's end office (or equivalent facility) as a network Edge[155] and those that would require terminating carriers to bear the costs of all transmission from any point on their networks.[156]

This approach is far superior to that advocated by commenters who would define existing physical points of interconnection as network Edges.[157] As AT&T explained in its opening comments, no serious bill-and-keep proposal has provided that the Edge should be wherever two networks happen to be physically interconnected, or that traffic should be exchanged there on a settlement-free basis.[158] This is for good reason. First, such a regime would be highly inefficient. It would eliminate any incentive for either the sending or terminating carrier to build out

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154 *Id.* §§ 1.d.ii.3-4.

155 *See, e.g.*, *DeGraba Paper*, *supra* note 125.

156 *See, e.g.*, XO Comments at 1, 4-8.

157 *See, e.g.*, *id.* at 1, 4-8 ("XO expects . . . carriers will continue to exchange traffic as they do today . . . yet the current intercarrier compensation rates will no longer be assessed."); Nebraska Rural Independent Companies Comments at 23-24 ("[T]he Commission need not specifically define the network edge under a bill-and-keep approach. Rather, the Commission need only affirm that the 'edge' is at the actual POI within the rural ILEC's network."). As discussed above, many commenters argue that all transport and switching provided by terminating carriers should be transitioned to bill-and-keep. These commenters are effectively arguing that the POI should be the network Edge. *See* pages 61-62, *supra*. Similarly, COMPTEL's argument that "LATA boundaries should be used as the transitional pricing boundary (*i.e.*, network edge) for TDM networks" also amounts to an argument that all of the POIs in any given LATA should serve as network Edges. *See* COMPTEL Comments at 2, 9.

158 AT&T Comments at 69-71.

facilities, even when it would be efficient for one or both to do so. And it would freeze in place today's often inefficient interconnection arrangements. Second, converting existing POIs into Edges would create a highly non-uniform Edge regime, because existing interconnection arrangements vary widely in different parts of the country, depending on the divergent policy goals of fifty state commissions. But consistency in the Edge rules—which govern when carriers are financially responsible for transporting traffic—is essential for any intercarrier compensation regime that aims to standardize regulatory obligations and minimize legal uncertainty.

Third, today's physical interconnection arrangements do not reflect an equitable sharing of transport responsibilities between the sending and terminating carriers. Instead, they reflect the regulatory premise that sending carriers will pay terminating carriers for all the costs the latter incur in completing a call, and that terminating carriers will thus be compensated for any extra work they must perform if sending carriers drop off traffic at inefficient locations. It would be arbitrary for the Commission to turn this premise on its head by designating existing POIs as Edges and thereby freeing sending carriers of the financial consequences of insisting on inefficient POI locations. Finally, such an approach would give all carriers powerful incentives to litigate any proposed location for a new (or higher-capacity) POI, because the choice among physical locations would carry enormous financial consequences.

Proposals to designate state-wide (and regional) POIs as network Edges[159] are even more unsound. Such an approach not only would produce the same inefficiencies and harms to competitive neutrality as other POI-based Edge proposals, but would multiply the severity of those harms by reducing the number of POIs. These approaches would dramatically shift

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[159] *See, e.g.*, T-Mobile Comments at iii, 13 (advocating "one POI per state"); Charter Comments at 2, 10-13 (arguing that competitive LECs should be permitted to interconnect with ILECs "at a single POI per state" or "even a multi-state metropolitan region").

transport costs to the terminating carrier, and especially to ILECs, which have extensive transport architectures. And this, in turn, would give many sending carriers an incentive to uproot efficient physical interconnection arrangements (such as interconnection at end offices and tandem switches) in favor of state-wide or regional POIs where they could transfer virtually all of their transport obligations to the terminating provider.[160] But it would be a vast waste of resources to implement such network reconfigurations for circuit-switched traffic just as the PSTN loses its relevance. Moreover, because such a proposal would require individual state commissions or the FCC to choose the location of the single POI in each state or region, it would embroil the industry in costly and wasteful administrative and judicial litigation that would likely not be resolved before the sunset of the PSTN.

Finally, it makes absolutely no sense to leave this critically important issue to the state commissions. Several commenters argue that state commissions should be empowered to designate network Edges with little, if any, direction from the Commission.[161] This would be a recipe for disaster. The central objective of this proceeding is replacing the existing patchwork of broken intercarrier compensation regimes with a uniform and efficient nationwide solution. Permitting fifty state commissions to define Edges using divergent criteria would subvert that objective.[162] It also would spawn vast amounts of litigation as parties attempted to persuade first those many state commissions, and then a variety of reviewing courts, to adopt their approaches

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160 *See, e.g.*, NECA *et al.* Comments at 19-20.

161 *See, e.g.*, Alaska Rural Coalition Comments at 9-10; COMPTEL Comments at iv; XO Comments at 1, 8; Indiana Utility Regulatory Commission Comments at 8; Wisconsin PSC Comments at 4.

162 *See* Moss Adams Comments at 10; Verizon Comments at 7.

to the designation of network Edges.[163] The Commission should instead adopt a uniform and clear approach to network Edges that leaves no ambiguity to be resolved by state commissions and the courts.

C. The Commission Should Act Now to Establish an Edge Regime

Some commenters argue that, while "defining the network edge may be an important part of a bill and keep regime," "it is premature for the Commission to resolve [that issue] now."[164] NCTA Comments at 3, 8. In fact, it would be a serious mistake for the Commission to delay in adopting a rational Edge regime.

First, LEC-CMRS traffic will be exchanged on a bill-and-keep basis starting July 1, 2012,[165] and it is essential that the Commission establish an efficient and competitively neutral Edge regime with respect to such traffic. As things stand now, the network Edge for LEC-CMRS traffic will be wherever two carriers happen to interconnect physically today in any given locality, and that point will vary widely from place to place. *Id.* And for all the reasons discussed above, it would make no sense to designate existing POIs as network Edges wherever they happen to be located. The Commission should avoid that outcome by adopting a coherent Edge regime for both LEC-CMRS traffic and all other types of PSTN traffic as soon as possible.

Second, carriers will need ample warning of the end state for network Edges in order to minimize potential disruptions and inefficiencies arising from the transition to bill-and-keep. Armed with knowledge of the ultimate Edge rules, carriers could, for example, make educated decisions about whether to deploy their own facilities instead of relying on terminating carriers

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163 *See also DeGraba Paper*, *supra* note 125, at 20 n.58 ("[T]here is no reason to suppose that the regulator will have the information necessary to select efficient meet point locations.").

164 *See also* Verizon Comments at 6-7.

165 *Order*, 26 FCC Rcd at 18031, 18034-35, 18037-41 ¶¶ 978, 988, 994-1002.

or third parties. Carriers could also negotiate new interconnection agreements (and renegotiate old ones) to arrive at arrangements that are efficient for both parties in the context of bill-and-keep. By contrast, continued uncertainty concerning the locations of network Edges could delay both facilities deployment and negotiation of interconnection agreements, as carriers worry that any arrangements they adopt will become inefficient upon the transition to bill-and-keep. In short, the Commission should adopt AT&T's Edge proposal as soon as possible.

VI. THE COMMISSION SHOULD ADOPT AT&T'S MEASURED APPROACH TO TRANSITIONING FROM TARIFFS TO INTERCONNECTION AGREEMENTS FOR ALL TRAFFIC SUBJECT TO SECTION 251(b)(5)

The Commission should, and indeed must, transition the industry away from tariffs and toward interconnection agreements now that it has concluded that all traffic is subject to section 251(b)(5).[166]

As several parties argue, tariffs are inconsistent with the section 251/252 framework, which requires that the terms and conditions of traffic exchanges between carriers be set out in interconnection agreements.[167] In particular, "[n]egotiated interconnection agreements are the mechanism contemplated by Sections 251 and 252, which now form the basis for the Commission's oversight of the ICC regime."[168] Furthermore, negotiated interconnection agreements are fairer than tariffs, which sometimes allow carriers to engage in wasteful arbitrage and extract inefficiently high rates from interconnecting carriers.[169]

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166 *See* AT&T Comments at 75-76.

167 *See, e.g.*, CTIA Comments at 9-10; Sprint Comments at 49; Alaska Regulatory Commission Comments at 22.

168 CTIA Comments at 10.

169 *See* T-Mobile Comments at 16-17.

Although a handful of parties oppose the elimination of tariffs,[170] none explains how retaining tariffs would be consistent with the Commission's determination that all traffic is subject to the section 251/252 reciprocal compensation regime. Instead, they generally argue that tariffs prevent the inefficiencies that would arise from requiring all carriers to negotiate individually with each other.[171] But this ignores that a carrier need not in fact negotiate with every other provider in the absence of tariffs. Instead, that carrier can simply contract with a third party (such as an unregulated transit provider) to deliver most of its incoming traffic. And that third-party provider can in turn contract with other carriers and pass along to them the rate charged by the terminating carrier as part of its price for providing transit services.[172] In any event, many of the rate elements that terminating carriers tariff today will be transitioning to bill-and-keep, and thus tariffs ultimately will be irrelevant in many of the contexts where they apply now.

The Commission also should extend the application of its *T-Mobile Order* and require all telecommunications carriers—and not just ILECs and wireless carriers—to negotiate interconnection agreements and submit to the state arbitration process set out in section 252.[173] As several commenters note, this step is essential to facilitating the transition from tariffs to

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[170] *See* Nebraska Rural Independent Companies at 21; Windstream Comments at 3, 12; NECA *et al.* Comments at iii.

[171] *See, e.g.*, Cbeyond *et al.* Comments at 17-18; Comcast Comments at 2-3; Nebraska Rural Independent Companies Comments at v; Windstream Comments at 3; *see also* CenturyLink Comments at iii (arguing for default arrangement when the "low volume of traffic exchanged make a negotiated agreement infeasible").

[172] The need for such flexible billing arrangements is another reason for the Commission to avoid imposing arbitrary rate caps on transit providers.

[173] *See* AT&T Comments at 74-76 (discussing Declaratory Ruling and Report and Order, *Developing a Unified Intercarrier Compensation Regime and T-Mobile et al. Petition for Declaratory Ruling Regarding Incumbent LEC Wireless Termination Tariffs*, 20 FCC Rcd 4855 (2005)).

negotiated interconnection agreements.[174] Only MetroPCS contends that the Commission does not have authority to take this step (at 12-13), and it is incorrect for the reasons articulated in AT&T's opening comments (at 74-76).

Finally, although AT&T supports the eventual transition to interconnection agreements for all traffic subject to section 251(b)(5), the Commission need not mandate this step immediately. Instead, AT&T agrees with those commenters that argue that tariffs should remain available for switched access services during the transition period established by the *Order*.[175] Instead of taking any abrupt action to eliminate tariffs, the Commission should take the measured approach advocated in AT&T's opening comments and proposed plan[176] while, at the same time, acknowledging that the elimination of tariffs for terminating traffic is the appropriate end state.

VII. THE COMMISSION SHOULD NOT ELIMINATE END-USER RECOVERY MORE QUICKLY THAN SET FORTH IN THE *ORDER*

As AT&T explained in its opening comments (at 76-79), the Commission should resist calls to immediately reduce or eliminate carriers' ability to recover their costs through end-user SLC and ARC charges. Very few commenters disagree.[177] Many more (indeed, the vast majority) agree with AT&T that such charges remain necessary—at least until the industry completes its transition to all-IP networks.[178] It is easy to see why.

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[174] *See, e.g.*, Alaska Rural Coalition Comments at 10; CenturyLink Comments at 25; T-Mobile Comments at 16-17; NECA *et al.* Comments at iii, 23-24; ITTA Comments at 5.

[175] *See* Comcast Comments at 2; XO Comments at 1, 6.

[176] *See* AT&T Comments at 75-76; *id.* at Appendix A, § 6(c) ("Beginning at Step 7 for price cap ILECs and all carriers that are on a similar transition and at Step 9 for rate of return ILECs and all carriers that are on a similar transition, the Commission will eliminate access tariffs for traffic subject to the transition.").

[177] *See* Ad Hoc Comments at 18-25; NASUCA Comments at 6; NCTA Comments at 9.

[178] *See, e.g.*, T-Mobile Comments at 18-19; Nebraska Rural Independent Companies Comments at 13, 17-18; Frontier Comments at 7-11; CenturyLink Comments at iii; USTelecom

First, eliminating SLC and ARC charges would be inconsistent with the very notion of bill-and-keep, which depends on carriers being able to recover their costs from their end users instead of from other carriers. As CenturyLink states (at iii-iv), "[i]t would be arbitrary and capricious to impose a new ICC regime based on a foundational finding that carriers can and should look to their own end users for cost recovery, while simultaneously eliminating the only mechanisms by which carriers might do that."[179] Many other commenters concur.[180]

Second, end-user charges enable carriers to recover network costs that are real and, at least in the case of ILECs, increasing on a per-line basis.[181] In the past, intercarrier compensation charges allowed carriers to recover, at least in part, these substantial costs, which include not only call origination and termination functions but also, particularly at the state level, the costs of serving high-cost customers at below-cost rates. But now that the Commission is transitioning the industry to a bill-and-keep framework, it must allow end-user recovery if it hopes to maintain the quality and geographic scope of existing services.

Finally, eliminating or reducing SLC and ARC charges would be particularly unfair to incumbent LECs. As CenturyLink points out (at 29-30), only 40 percent of households continue to subscribe to ILEC voice services, and ILECs are losing lines at an astonishing rate.[182] At the

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Comments at 6; Windstream Comments at 2, 5-6; NECA *et al.* Comments at 31-37; Moss Adams Comments at v, 12.

[179] *See also* CenturyLink Comments at 28-29.

[180] *See, e.g.*, Windstream Comments at 2, 6-7; Frontier Comments at ii, 10; Moss Adams Comments at vi; USTelecom Comments at 6; T-Mobile Comments at 18-19.

[181] *See* AT&T Comments at 76-79; *see also* CenturyLink Comments at 28-29; Frontier Comments at 8, 10; Moss Adams Comments at 17; Windstream Comments at 2, 7-8; Alaska Rural Coalition Comments at 13; Nebraska Rural Independent Companies Comments at 17-18; USTelecom Comments at 6; NECA Comments at 31, 35-37.

[182] *See* AT&T Comments at 77 & Appendix B (showing that in the states where AT&T serves as an ILEC, incumbents have suffered a 52.3 percent drop in their residential lines from December 1999 to December 2010).

same time, ETC and COLR obligations compel ILECs to extend their facilities to new housing units, even when there is no business case for doing so.[183] But ILECs' competitors—including, for example, CLECs and wireless carriers—have no such obligations *and* are free to charge their end users whatever the market will bear. Reducing ILECs' ability to recover from their customers would only further hamper those carriers' ability to effectively compete in the marketplace.

That said, AT&T does not deny that SLC and ARC charges should eventually be phased out. Such charges will be unnecessary, for example, after the industry completes its transition to a deregulated, all-IP environment, and all carriers can compete on equal footing.[184] For now, however, it would be inappropriate and counterproductive to eliminate SLC and ARC charges.

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[183] *See id.*; *see also* Frontier Comments at 10; CenturyLink Comments at 30.

[184] *See, e.g.*, AT&T Comments at 76; USTelecom Comments at 6; Frontier Comments at 9-11.

CONCLUSION

The Commission should smooth the transition from the circuit-switched PSTN to the all-IP network of tomorrow by adopting the policies described above.

Respectfully submitted,
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