

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

In the Matter of)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
Developing a Unified Intercarrier Compensation Regime)	CC Docket No. 01-92
)	

REPLY COMMENTS OF COMCAST CORPORATION

Comcast Corporation (“Comcast”) hereby submits these reply comments in response to certain proposals advanced in comments responding to the Wireline Competition Bureau’s Public Notice asking parties to refresh the record regarding the appropriate “network edge for traffic that interconnects with the Public Switched Telephone Network.”¹ In particular, the Bureau sought comment on whether, and if so how, the Federal Communications Commission (“Commission”) should define the network edge “in light of regulatory and market developments” since the 2011 *Transformation Order*.² In response to the Public Notice, a limited number of parties urged the Commission to define the network edge as the incumbent local exchange carrier’s (“ILEC’s”) end office. As set forth below, the Commission should

¹ *Parties Asked to Refresh the Record on Intercarrier Compensation Reform Related to the Network Edge, Tandem Switching and Transport, and Transit*, Public Notice, 32 FCC Rcd 6856 (2017). As described in the Public Notice, the network edge is the “point where bill-and-keep applies, [and] a carrier is responsible for carrying, directly or indirectly by paying another provider, its traffic to that edge.” *Id.* at 6857 (citation omitted).

² *Id.* at 6857; *Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform – Mobility Fund*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (“*Transformation Order*”).

decline to adopt this proposal because it is inconsistent with the Commission's efforts to promote the exchange of traffic on a bill-and-keep basis and, if implemented, would delay the Internet Protocol ("IP") transition. Moreover, the Commission should decline to adopt any default network edge during the ongoing transition to IP.

I. ESTABLISHING THE LEGACY TIME-DIVISION MULTIPLEXING ("TDM") END OFFICE AS THE DEFAULT NETWORK EDGE WOULD UNDERMINE THE BILL-AND-KEEP TRANSITION

The cornerstone of the *Transformation Order* was the Commission's commitment to replace the traditional originating-provider-pays traffic exchange arrangements with bill-and-keep arrangements under which the costs of terminating traffic are recovered from end users. As the Commission reasoned, the transition to bill-and-keep would create a host of benefits, including increasing the economic incentive to exchange traffic in IP protocol and "giv[ing] carriers appropriate incentives to serve their customers efficiently."³

Notably, the Commission's bill-and-keep transition plan includes not only traffic terminating directly to an end office, but also traffic routed via a tandem to an end office owned by a price cap ILEC that also owns the tandem.⁴ Now, as we near the end of the multi-year transition to bill-and-keep, some parties are attempting to use the debate over the establishment of a default network edge to reverse this aspect of the transition and reinstate fees for the

³ *Transformation Order* ¶ 742. See also *id.* ¶ 34 ("Bill-and-keep . . . is consistent with and promotes deployment of IP networks; will eliminate competitive distortions between wireline and wireless services; and best promotes our overall goals of modernizing our rules and facilitating the transition to IP."); ¶ 736 ("setting an end state for all traffic will promote the transition to IP networks, provide a more predictable path for the industry and investors, and anchor the reform process that will ultimately free consumers from shouldering the hidden multi-billion dollar subsidies embedded in the current system"); ¶ 738 ("Bill-and-keep has significant policy advantages over other proposals in the record."); ¶¶ 741-759 (outlining additional ways in which "bill-and-keep best advances the goals of reform").

⁴ *Id.* ¶ 819 ("For price cap carriers, . . . transport and terminating switched access shall go to bill-and-keep levels where the terminating carrier owns the tandem.").

delivery of traffic to a price cap ILEC through its tandem.⁵ Under the commenters' new proposal, the carrier delivering the traffic to the price cap ILEC would pay a fee to route the traffic via tandem and transport facilities to an end office owned by the same ILEC.

The Commission should reject these proposals, which plainly would undermine both the *Transformation Order* and the policy goals underlying the industry's ongoing transition to bill-and-keep. As NCTA correctly noted, the Commission "must ensure that incumbent LECs are not able to use the network edge rules as an excuse to shift unreasonable transport costs to competitors."⁶ Instead, the Commission should maintain its commitment to the bill-and-keep transition.

II. ESTABLISHING LEGACY TDM END OFFICES AS THE DEFAULT NETWORK EDGE WOULD SLOW THE IP TRANSITION

In addition to undermining the Commission's effort to complete the bill-and-keep transition, adopting the ILEC end office as the default network edge would slow the IP transition. Indeed, as long as the terminating carrier maintains its legacy TDM network and continues to receive compensation, it will have little incentive to exchange traffic in IP protocol or otherwise complete the IP transition.

⁵ See, e.g., Comments of CenturyLink, WC Docket No. 10-90, at 9-10 (Oct. 26, 2017) (arguing that, "as a general matter, the switch that serves the end user (i.e. the end office or its equivalent) should be the default financial edge (i.e. point at which an IXC ceases responsibility for carrying traffic"); Comments of ITTA – The Voice of America's Broadband Providers, WC Docket No. 10-90, at 4-7 (Oct. 26, 2017) ("ITTA Comments"); see also ITTA Comments at 13-16 (expressly arguing that the Commission "should reverse the bill-and-keep transition for tandem switching and transport").

⁶ Comments of NCTA – The Internet & Television Association, WC Docket No. 10-90, at 6 (Oct. 26, 2017) ("NCTA Comments"). See also Comments of Charter Communications, Inc., WC Docket No. 10-90, at 14 (Feb. 24, 2012) ("incumbents have incentives to manipulate network interconnection arrangements in order to increase competitors' costs of entry and network deployment") ("Charter Comments").

Moreover, defining the network edge as the TDM end office would force providers who have invested in IP-based networks to continue to pay for and maintain legacy technology to support an ever-decreasing portion of their traffic, including the ongoing costs of purchasing TDM interconnection facilities and converting IP-based traffic to and from the TDM protocol. Requiring IP-based providers to spend further dollars in inefficient, hierarchical TDM architecture would needlessly prolong the transition to an all-IP world.⁷ As Sprint aptly stated, in light of the ongoing transition to IP, “now more than ever, it makes no sense to continue to use the legacy PSTN network framework as the basis for interconnection rules for IP voice traffic.”⁸

Defining the network edge in this manner also would perpetuate *existing* inefficiencies. Providers of IP-based services have invested (and continue to invest) significant capital and operating expenses in deploying their modern networks, including for the establishment and maintenance of IP interconnection facilities. By designating the ILEC end office as the network edge, the Commission effectively would require IP-based providers to continue to bypass, and thus underutilize, their existing IP interconnection facilities.

Instead of establishing a default network edge at this time, the Commission should permit existing traffic exchange and interconnection points to remain in place until they eventually are

⁷ Moreover, setting the network edge as the ILEC end office perversely would require IP-based providers to compensate the ILEC for maintaining the *inefficient* hierarchical network that requires tandem switches to reach end users. As noted previously, serving customers *efficiently* was one of the Commission’s reasons for adopting the bill-and-keep transition. *See supra* at 2.

⁸ Comments of Sprint Corporation, WC Docket No. 10-90, at 3 (Oct. 26, 2017). *See also* Charter Comments at 14 (“[A]ny new edge rules cannot favor the continued use of hierarchical, circuit-switched networks, but must instead recognize the implementation of soft switches, and distributed switching architectures, used in IP-based networks.”).

replaced by the far less numerous, more efficient IP interconnection points.⁹ As previous comments in this proceeding have correctly observed, in light of the ongoing IP transition, it simply is “unnecessary for the Commission to establish new rules that would alter existing TDM interconnection arrangements – arrangements which are well-established and are the result of more than a decade of negotiations and arbitrations between incumbents and competitors.”¹⁰ Indeed, the burdens associated with amending successful interconnection agreements simply cannot be justified for any network edge proposal, much less one that weakens the foundation of the *Transformation Order*.

III. CONCLUSION

For the foregoing reasons, the Commission should not establish a default network edge at this time, particularly one that is based on the legacy TDM network architecture and that will undermine the core principles of its *Transformation Order*.

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⁹ NCTA Comments at 2 (the “overarching objective of the next phase of the Commission’s intercarrier compensation reforms should be providing incentives for completing the transition to an all-IP environment”).

¹⁰ Comments of Cbeyond, EarthLink, Integra Telecom, and tw telecom, WC Docket No. 10-90, at 16 (Feb. 24, 2012).