

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
)
AT&T Petition to Launch a Proceeding Concerning)
the TDM-to-IP Transition)
) GN Docket No. 12-353
Petition of the National Telecommunications)
Cooperative Association for a Rulemaking to Promote)
and Sustain the Ongoing TDM-to-IP Evolution)

REPLY COMMENTS OF CENTURYLINK

Craig J. Brown
Timothy M. Boucher
1099 New York Avenue, N.W.
Suite 250
Washington, DC 20001
303-992-2503
Craig.J.Brown@CenturyLink.com

Attorneys for

CENTURYLINK

February 25, 2013

EXECUTIVE SUMMARY

As the Commission recognized in the National Broadband Plan (at 59), the convergence of multiple IP-based services on a single network “creates extraordinary opportunities to improve American life and benefit [American] consumers.” There is a significant divide in the record, however, as to how the Commission should facilitate this transition and regulate IP networks and services. CLECs urge the Commission to leave most, if not all, legacy regulations in place during the TDM-to-IP transition and then establish a regulatory framework for an all-IP world that is virtually identical to current regulation of TDM networks and services, with the addition of new unbundling obligations on next-generation IP networks. This backward-looking regulatory approach overlooks fundamental aspects of the TDM-to-IP transition:

- ILECs do not have market power with respect to IP services; indeed, they already face extensive, multi-faceted competition for both consumer and business services, which has dismantled the theoretical underpinnings of the legacy regulatory framework;
- Over time and absent premature regulation, the economics of IP voice networks (which differ from those of TDM networks) suggest that these networks may converge with IP data networks, at which point voice service will be merely one of many IP-based services exchanged through commercially-governed interconnection arrangements;
- The TDM-to-IP transition will be most challenging for ILECs serving rural America, given the geographic scale and scope of their legacy networks and systems and shrinking customer bases over which to spread the massive cost of the transition;
- Burdensome and unnecessary regulation of IP networks and services, resulting in added costs and uncertainty, will delay the TDM-to-IP transition, particularly in rural areas where the transition is most critical and the business case most difficult;
- The “competition regulations” proposed by the CLECs would reverse the Commission’s successful, decade-long policy of promoting the deployment of next-generation networks.

CenturyLink recommends an alternative approach to the IP transition that recognizes the promise and transformative nature of the IP migration. Specifically, the Commission should use this proceeding to eliminate legacy regulations that will hinder the transition to IP networks and services and identify the limited regulations necessary in an all-IP world.

In establishing the regulatory framework for next-generation IP networks and services, the Commission should be guided by the principles outlined in CenturyLink's initial comments: (1) regulatory obligations should apply in the same manner to all IP providers; (2) no regulation should be applied in an all-IP world unless it is shown to be useful and necessary, based on real-world experience; and (3) the Commission should establish flexible guidelines for the transition to IP, rather than one-size-fits-all standards and deadlines. Such an approach is similar to the Commission's regulation of interconnected VoIP services and is particularly critical in high-cost, rural areas, where unnecessary regulatory costs can torpedo an already tenuous business case for transitioning to IP.

The Commission should reject attempts by CLECs to gain a competitive advantage by imposing unnecessary and counterproductive regulations on next-generation IP networks and services. The Commission should allow IP-to-IP interconnection for voice services to be driven by economics and efficiency, rather than premature Commission mandates. Similarly, the CLECs' proposed return to investment-choking "maximum unbundling" policies should be rejected by the Commission, as such policies were rejected by the courts more than a decade ago. This is particularly so given that ILECs do not have, and likely will never have, anything approaching dominance with respect to IP services. Simply put, today's IP marketplace bears no resemblance to telecommunications markets of 1996.

Guided by these principles, the Commission can, and should, play an important role in hastening the transition to IP networks and services, acknowledging the changed realities of an all-IP world and ensuring that any rules that may be needed are not adopted prematurely or based on supposition. American consumers will be the ultimate beneficiaries.

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	i
I. INTRODUCTION.....	1
II. THE COMMISSION SHOULD FACILITATE THE TDM-TO-IP TRANSITION BY LIMITING REGULATION OF NEXT-GENERATION IP NETWORKS.....	3
A. Regulation of Next-Generation IP Networks Will Play A Critical Role in the Pace of the TDM-to-IP Transition, Particularly in Rural Areas.....	4
B. Competition and Technological Change Have Eliminated the Need for Most Regulation of Next-Generation IP Networks.....	6
C. The Commission’s Regulation of Next-Generation IP Networks Should Be Guided by Competitive Neutrality, Necessity, and Flexibility.....	10
III. ADDITIONAL REGULATION OF ILEC IP NETWORKS WOULD BE BOTH UNNECESSARY AND COUNTERPRODUCTIVE.....	11
A. Customers Have Benefited Immensely from the Commission’s Pro- Investment Policies that CLECs Seek to Overturn.....	12
B. The Commission Should Allow IP-to-IP Interconnection to Be Driven by Economics and Efficiency, Rather than Commission Mandates.....	14
1. IP Voice and Data Networks Will Likely Converge Over Time.....	15
2. Any Additional Exercise of Commission Authority Over IP Interconnection Is Premature and Otherwise Unwarranted.....	16
3. ILEC-Specific Interconnection Requirements Would Be Particularly Misguided.....	18
C. The Commission Should Reject CLECs’ Attempts to Turn Back the Clock on Regulation of Next-Generation Networks.....	18
IV. CONCLUSION.....	20

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition)	
)	
)	GN Docket No. 12-353
Petition of the National Telecommunications Cooperative Association for a Rulemaking to Promote and Sustain the Ongoing TDM-to-IP Evolution)	

REPLY COMMENTS OF CENTURYLINK

I. INTRODUCTION

CenturyLink submits these reply comments regarding the telecommunications industry's transition from time-division multiplexed (TDM) to Internet Protocol (IP) based facilities and services.¹

The initial comments in this proceeding reveal two starkly different visions of the TDM-to-IP transition. The first, put forth mainly by CLECs, assumes that the transition to IP is just another incremental evolution in the life of the nation's telecommunications networks, akin to the move from analog to digital switches. According to this theory, legacy regulations developed for monopoly-era TDM networks should (of course) apply to next-generation IP networks, including asymmetric regulations premised on ILEC market power. And, given that ILECs supposedly face, at most, a duopoly in residential markets and spotty competition for business customers, this theory's proponents urge the Commission to pile new, "competition-enhancing" regulations on ILEC IP networks -- regulations that were generally eliminated a decade ago as

¹ See *Pleading Cycle Established on AT&T and NTCA Petitions*, DA 12-1999, GN Docket No. 12-353, Public Notice (rel. Dec. 14, 2012); AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition (filed Nov. 7, 2012) (AT&T Petition); Petition of the National Telecommunications Cooperative Association for a Rulemaking to Promote and Sustain the Ongoing TDM-to-IP Evolution (filed Nov. 19, 2012) (NTCA Petition).

part of the Commission's highly-successful policy to promote the deployment of next-generation networks. At bottom, this vision seeks what is best for CLECs, rather than consumers: indefinite access to ILEC networks at regulated rates, regardless of whether ILECs retain market power, and without considering how this investment-sapping regulation will retard the TDM-to-IP transition -- particularly in rural America.

CenturyLink subscribes to a competing vision of the TDM-to-IP transition, articulated mostly by facilities-based providers. This vision recognizes the ongoing IP convergence's promise and transformational nature, and seeks to build on the Commission's efforts to promote next-generation networks. Four principles underlie this vision. *First*, the Commission's current policies have established a firm starting point for the TDM-to-IP transition, fostering multi-platform competition, with new and improving telecommunications and information services available in areas throughout the nation. *Second*, over time, IP voice networks will likely converge with IP data networks and may share the same commercially-governed interconnection arrangements. *Third*, the TDM-to-IP transition will enable competition at both the physical and application layers of networks, further reducing the significance of current labels like "ILEC" and "CLEC." *Fourth*, regulation, by its nature, is a blunt instrument that bestows superior bargaining power on certain providers, enabling them to demand arrangements that serve their own interests but may be inefficient for the industry as a whole. For all these reasons, the Commission should impose regulation cautiously in an all-IP world.

Consistent with this forward-looking view, the Commission should initiate a proceeding to facilitate the IP transition, by identifying those regulations that continue to make sense in an all-IP world and eliminating the rest. In conducting this analysis, the Commission should be guided by the overriding principles outlined in CenturyLink's initial comments: (1) regulatory

obligations should apply in the same manner to all IP providers; (2) no regulation should be applied in an all-IP world unless it is shown to be useful and necessary, based on real-world experience; and (3) the Commission should establish flexible guidelines for the transition to IP, rather than one-size-fits-all standards and deadlines.² This is similar to the path that the Commission has followed in regulating interconnected VoIP services. Such an approach is particularly critical in high-cost, rural areas, where unnecessary regulatory costs can torpedo an already tenuous business case for transitioning to IP.

The Commission also should reject attempts by CLECs to seize a competitive advantage by imposing additional unnecessary and counterproductive regulations on ILEC next-generation IP networks and services. As CenturyLink and others have previously explained, the Commission should allow IP-to-IP interconnection for voice services to be driven by economics and efficiency, rather than premature Commission mandates. Similarly, the CLECs' proposed return to investment-choking "maximum unbundling" policies should be rejected by the Commission, as such policies were rejected by the courts more than a decade ago.

Guided by these principles, the Commission can, and should, play an important role in hastening the transition to IP networks and services, acknowledging the changed realities of an all-IP world. American consumers will be the ultimate beneficiaries.

II. THE COMMISSION SHOULD FACILITATE THE TDM-TO-IP TRANSITION BY LIMITING REGULATION OF NEXT-GENERATION IP NETWORKS

The Commission should open a proceeding to ensure that legacy regulations do not become a drag on the TDM-to-IP transition, and establish a light regulatory touch for next-generation IP networks and services. Without these actions, the TDM-to-IP transition in many rural areas is likely to lag significantly behind the transition in urban and suburban areas. The

² CenturyLink Initial Comments at 2-3.

Commission can apply limited regulation to next-generation IP networks without fear of adverse consequences, because intense, multi-faceted competition for all telecommunications and information services has swept away the underlying rationale for many legacy regulations, including ILEC-specific regulations premised on market power. Fundamental differences in IP networks provide further reason for the Commission to apply only limited regulation in an all-IP world, guided by competitive neutrality, necessity, and flexibility.

A. Regulation of Next-Generation IP Networks Will Play A Critical Role in the Pace of the TDM-to-IP Transition, Particularly in Rural Areas

Like all voice providers that are not already operating wholly or mostly in IP, CenturyLink is actively pursuing the migration of its local telephone networks to IP.³ It must. IP is the future. In order to survive and thrive, all telecommunications providers must, over time, transition to IP. With that said, the economic dynamics of the transition are different for each carrier. Most challenged are ILECs, and particularly ILECs like CenturyLink that serve vast swaths of rural America. The transition to IP will be much costlier and complicated for these carriers, given the geographic scale and scope of their legacy wireline networks and systems. In addition, 15 years of competition -- from cable, wireless and CLEC competitors -- along with the rise of email, texting, instant messaging, social media and other alternatives to voice services, has steadily eroded ILECs' base of wireline customers. Thus, CenturyLink and other ILECs face a vastly diminished, and still-declining, customer base over which to spread the TDM-to-IP transition's massive costs. Particularly in rural areas, potentially without federal high-cost support, a near-term business case for a transition to IP is often difficult to justify.

At the same time, the Commission has recognized that ILECs -- and particularly price cap ILECs -- offer the best hope of bringing the benefits of IP networks and services to rural

³ *Id.* at 3-4.

America.⁴ While cable providers are far ahead in the use of IP voice and CLECs may generally lead ILECs in the TDM-to-IP transition, they usually do not serve the country's most rural areas. Consumers therefore will be best served by Commission rules and policies that do not impose unnecessary and burdensome regulatory burdens that effectively increase the cost of deploying IP networks and providing IP services.

Regulatory burdens do matter. Whether imposed through unnecessary administrative requirements, mandated network configurations or sharing, or asymmetric regulations that tilt the playing field, such requirements can smother the business case for transitioning a local telephone network to IP. To be sure, application of a single, seemingly innocuous record-keeping requirement may not determine whether a carrier commits the capital necessary for such a transition. Yet, a business case can suffer a “death by a thousand cuts” from a collection of

⁴ *In the Matter of 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 an Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform - Mobility Fund*, WC Docket Nos. 10-90, 07-135, 05-337, 03-109, CC Docket Nos. 01-92, 96-45, GN Docket No. 09-51, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161, 26 FCC Rcd 17663, 17712 ¶ 127 (rel. Nov. 18, 2011) (*USF/ICC Transformation Order/FNPRM*), *Order Clarifying Rules*, 27 FCC Rcd 605 (rel. Feb. 3, 2012) (*Clarification Order*), Erratum to *USF/ICC Transformation Order* (rel. Feb. 6, 2012), Application for Review pending, USCC, *et al.*, filed Mar. 5, 2012, *Further Clarification Order*, DA 12-298, 27 FCC Rcd 2142 (2012), Erratum to *Clarification Order* (rel. Mar. 30, 2012), Second Erratum to *USF/ICC Transformation Order*, DA 12-594, 27 FCC Rcd 4040 (2012), *pets. for recon. granted in part and denied in part*, Second Order on Recon., FCC 12-47, 27 FCC Rcd 4648 (2012), *pet. for rev.*, *Windstream v. FCC* (10th Cir. No. 12-9575); Third Order on Recon., FCC 12-52, 27 FCC Rcd 5622 (2012), Erratum to *Second Order on Recon.* (rel. June 1, 2012), *Order Clarifying Rules*, DA 12-870, 27 FCC Rcd 5986 (2012), Erratum to *Order Clarifying Rules* (rel. June 12, 2012), Second Report and Order, FCC 12-70, 27 FCC Rcd 7856 (2012), Fourth Order on Recon., FCC 12-82, 27 FCC Rcd 8814 (2012), *Order Clarifying Rules*, DA 12-1155, 27 FCC Rcd 8141 (2012), Fifth Order on Recon., FCC 12-137, 27 FCC Rcd 14549 (2012), Erratum to Fifth Order on Recon. (Dec. 4, 2012), *pets. for rev. of USF/ICC Transformation Order pending, sub nom. In re: FCC 11-161* (10th Cir. No. 11-9900, Dec. 16, 2011). More than 80% of customers lacking access to broadband services reside in areas served by price cap carriers. *Id.* This phenomenon resulted primarily from universal service rules that, until recently, did not provide federal high-cost support to so-called “non-rural” ILECs to deploy broadband capabilities in rural networks.

unnecessary regulations. And, as described below, expansive, asymmetric regulatory mandates, such as section 251(c)(2) obligations on IP-to-IP voice interconnection or unbundling requirements for next-generation networks will absolutely delay the migration to IP.

B. Competition and Technological Change Have Eliminated the Need for Most Regulation of Next-Generation IP Networks

Assuming *arguendo* they would be lawful, there are also good reasons to believe that many legacy, voice-centric regulations will be unnecessary in an all-IP world. The competitive landscape for telecommunications has changed substantially over the past ten, and even five, years, with ILEC voice services now purchased by less than 40 percent of households.⁵

According to NCTA, cable operators “now provide voice services to over 26 million households, the vast majority of which are served by IP-based equipment.”⁶

Due to technological convergence, CenturyLink routinely competes against rivals that dwarf the company both in subscribers and resources. CenturyLink finished 2012 with approximately 13.7 million access lines,⁷ as compared to AT&T, Verizon Wireless, and Sprint’s 107 million, 98.2 million, and 53.5 million wireless subscribers, respectively.⁸ For broadband

⁵ CenturyLink Initial Comments at 6. Notably, the percentage of U.S. households that have disconnected their wireline telephone services increased from 20% to 36% in just four years. See Stephen J. Blumberg, Ph.D., & Julian V. Luke, Div. of Health Interview Statistics, Nat’l Center for Health Statistics, Centers for Disease Control and Prevention, *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey*, January-June 2012, Table 1 (Dec. 2012), available at <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201212.pdf>.

⁶ NCTA Initial Comments at 2.

⁷ CenturyLink Press Release, *CenturyLink Reports Fourth Quarter and Full-Year 2012 Earnings* (Feb. 13, 2013), available at http://ir.centurylink.com/phoenix.zhtml?c=112635&p=irol-newsArticle_Print&ID=1784862&highlight (*CenturyLink 2012 Results*).

⁸ See AT&T News Release, *Strong Growth in Wireless and U-verse Drives Revenue and Adjusted Earnings Per Share Growth in AT&T’s Fourth-Quarter Results* (Jan. 24, 2013), available at <http://www.att.com/gen/press-room?pid=23672&cdvn=news&newsarticleid=35937> (*AT&T 2012 Results*); Verizon News Release, *Verizon Reports Strong Revenue And Customer Growth For Verizon Wireless And FiOS Services In 4Q 2012* (Jan. 22, 2013), available at

services, the story is no different. CenturyLink's frequent competitor Comcast has almost twice as many broadband subscribers as CenturyLink's 5.8 million,⁹ and AT&T has more than 47 million smartphone users, all with broadband at the touch of an icon. In terms of resources, CenturyLink reported revenues of \$18.4 billion for 2012, compared with \$127.4 billion, \$75.9 billion, and \$62.5 billion for AT&T, Verizon Wireless, and Comcast, respectively.¹⁰ Thus, suggestions that all ILECs have a large "guaranteed" subscriber base and "unmatched resources" bear no resemblance to the marketplace reality that CenturyLink faces each day.¹¹ ILECs like CenturyLink simply do not have a market position today that would justify applying legacy regulation's full scope to their next-generation IP networks, as CLECs and some other commenters advocate. Moreover, market trends clearly show that ILECs will have even smaller market shares going forward.

The same goes for business services. Many CLECs have capitalized on the ongoing migration away from TDM-based services, such as DS1s and DS3s, and to optical and

<http://news.verizonwireless.com/news/2013/01/fourth-quarter-2012-earnings.html> (*Verizon 2012 Results*); Sprint News Release, *Sprint Nextel Reports Fourth Quarter and Full Year 2012 Results* (Feb. 13, 2013), available at http://newsroom.sprint.com/article_display.cfm?article_id=2510. Even the fourth largest wireless provider, T-Mobile, has reported more than twice as many wireless subscribers as CenturyLink's access lines. T-Mobile News Release, *T-Mobile USA Reports Third Quarter 2012 Operating Results* (Nov. 8, 2012), available at <http://newsroom.t-mobile.com/articles/t-mobile-2012-third-quarter-operating-results> (reporting 33.3 million wireless subscribers as of third quarter 2012).

⁹ See Comcast News Release, *Comcast Reports 4th Quarter and Year End 2012 Results* (Feb. 12, 2013), available at <http://www.cmcsk.com/releasedetail.cfm?ReleaseID=739834> (reporting 9.5 million broadband subscribers) (*Comcast 2012 Results*); *CenturyLink 2012 Results* at 1.

¹⁰ See *CenturyLink 2012 Results*; *AT&T 2012 Results*; *Verizon 2012 Results*; *Comcast 2012 Results*.

¹¹ See CompTel Initial Comments at 13; MetroPCS Initial Comments at 3. See also Ad Hoc Initial Comments at 12-13 (referring to the existence of "natural monopolies" and "duopolies"). Ad Hoc asserts that, in most areas, "there is only one source of very high-speed, wired IP service — the local cable television monopoly." It fails to explain, however, why CenturyLink and other ILECs should be regulated as an incumbent, dominant provider of the IP services that they provide in competition with these purported "monopoly" providers.

packetized services, such as Ethernet. For example, tw telecom is the nation's third largest Ethernet provider, ahead of CenturyLink, with strong showings by Level 3 and XO.¹² CLECs have also touted their ability to use new technologies to provide Ethernet over copper, using unbundled DS0-capacity copper loops purchased at TELRIC rates. Ethernet over copper offers speeds ranging from 3 to 50 Mbps in certain areas today,¹³ obviously without the need for fiber deployment.

In addition, every major cable provider now competes aggressively for enterprise and wholesale customers. Cable providers are in the "ideal position to develop comprehensive carrier Ethernet architecture to support a wide range of business services," as they pass three-quarters of the nation's businesses.¹⁴ By 2011, Comcast, Time Warner Cable, and Cox had each achieved more than \$1 billion in annual "commercial services" revenues, with steady growth predicted in upcoming years.¹⁵

Fundamental distinctions between TDM and IP networks also weigh against reflexive application of legacy, voice-centric regulations to the latter. The economics of switching, interconnection, and transport are different in the two types of networks. The migration to IP networks is facilitating competition not only at the physical layer, but the application layer as

¹² *Vertical Systems Group: 2012 U.S. Business Ethernet Leaderboard* (Jan. 29, 2013), available at http://www.verticalsystems.com/prarticles/stat-flash-YE_2012_US_Leaderboard.html (*Ethernet Leaderboard*).

¹³ See Letter from Joshua M. Bobeck *et al.*, Counsel to Mpower Communications Corp., *et al.*, to Marlene H. Dortch, FCC, WC Docket Nos. 10-188, 12-353, GN Docket Nos. 09-51, 13-5, RM-11358, at 5-6 (filed Jan. 25, 2013).

¹⁴ The Insight Research Corp., *Cable TV Enterprise Services: 2012-2017*, at 88, 105 (Sept. 2012) (*Cable Enterprise Services*). Thus, Interisle's facts are woefully out-of-date when it suggests that only ILECs have outside plant that reaches the vast majority of urban and rural households and businesses. Interisle Initial Comments at 1.

¹⁵ See *Cable Enterprise Services* at 26, 115. Hence, Granite's contention that "anticipated competition from cable companies in the business market has not materialized" is belied by the facts. See Granite Telecommunications Initial Comments at 35.

well.¹⁶ Thus, consumers can choose both their platform -- whether wireline or wireless -- and the services that ride on that platform. In this regard, CenturyLink's voice services will compete not only with other IP voice services, but also with voice substitutes such as instant messaging, social media, and other as-yet-unknown methods of communication, all of which will be carried more often than not over other networks.

Nevertheless, regulation proponents theorize a dystopian existence in the all-IP world, characterized by "price gouging, no accountability for service outages, no consumer protections from slamming and cramming, . . . no reliable access to emergency services" and "rolling Internet blackouts as intercarrier disputes pop up."¹⁷ But, of course, the Commission has already extended basic consumer protections to interconnected VoIP services,¹⁸ robust competition for IP services precludes the possibility of "price gouging," and ISPs have been exchanging Internet traffic for two decades without rolling blackouts.

Moreover, CenturyLink is not suggesting that there should be *no* regulation in an all-IP world. Rather, before applying legacy regulations to next-generation IP networks, the Commission simply should determine, based on real-world evidence, which regulations are necessary and useful -- particularly from a consumer standpoint -- similar to how it has approached the regulation of interconnected VoIP services. Instead of applying the full panoply of Title II regulations upfront, the Commission has gradually identified, through experience, the

¹⁶ CenturyLink Initial Comments at 7.

¹⁷ Free Press Initial Comments at 5.

¹⁸ As NCTA notes, the Commission has established core public safety and consumer protection requirements for interconnected VoIP services, including E-911, outage reporting, local number portability, privacy, CALEA, and disabilities access. NCTA Initial Comments at 9. Thus, "the Commission can be sure that incumbent LEC customers will be protected as the transition from TDM to IP technology takes place, just as customers of other VoIP providers are today." *Id.* at 5.

consumer protection and public safety regulations it believes are necessary for interconnected VoIP services.¹⁹ Similarly, the Commission has used its authority under section 332(c) of the Act to limit the regulation of commercial mobile radio services,²⁰ setting the stage for rapid growth in the wireless industry. The Commission should establish a similar common-sense, competitively neutral regulatory framework for all IP networks and services.

C. The Commission's Regulation of Next-Generation IP Networks Should Be Guided by Competitive Neutrality, Necessity, and Flexibility

In considering the appropriate regulation of next-generation IP networks and services, the Commission should be guided by the three principles outlined in CenturyLink's initial comments.

First, the same regulatory obligations should be applied to all IP networks and services, regardless of provider.²¹ Pervasive competition in all telecommunications sectors has dismantled the theoretical underpinnings of the legacy regulatory framework, which generally treats ILEC networks as monopoly bottlenecks and ILEC services as dominant.

Second, the Commission should not apply any regulation to next-generation IP networks and services unless it is shown to be useful and necessary, based on real-world experience.²² In other words, the Commission should start with a blank slate and then consider additional regulation, as necessary, to address identified concerns. The CLECs suggest the exact opposite:

¹⁹ *See In re IP Enabled Services*, Report and Order, 24 FCC Rcd 6039, 6041-42 ¶ 5 (2009) (noting that the Commission has used Title I and other statutory authority to require 911 capability, universal service contributions, disability access, compliance with Telecommunications Relay Service obligations, and local number portability and numbering administration support).

²⁰ *See In re Forbearance from Applying Provisions of the Communications Act to Wireless Telecommunications Carriers*, First Report and Order, 15 FCC Rcd 17414, 17416-17 ¶ 6 (2000).

²¹ CenturyLink Initial Comments at 6-7.

²² *Id.* at 7-9.

that the Commission should reflexively apply all legacy regulation to next-generation IP networks, without any showing that the regulation is necessary or serves a useful purpose.²³ As noted, the Commission has rejected this backward-looking approach with regard to IP voice services, and it should do the same for next-generation IP networks and services as well. In the IP world, such reliance on ILEC networks is untenable and the competitive disadvantage such treatment would place on ILECs would harm consumer choice without any benefit to competition.

Third, the Commission should establish flexible guidelines for the transition to IP, rather than one-size-fits-all standards and deadlines.²⁴ Such guidelines will take account of the unique circumstances and challenges each carrier faces as it migrates its network and services to IP. Such flexibility is especially important in rural areas, where the TDM-to-IP transition is likely to proceed at a more measured pace. By applying these principles, the Commission will ensure that its rules promote, rather than hinder, the IP migration and its many benefits for consumers.

III. ADDITIONAL REGULATION OF ILEC IP NETWORKS WOULD BE BOTH UNNECESSARY AND COUNTERPRODUCTIVE

Some commenters are not content with applying legacy regulations to next-generation IP networks. They also want the Commission to apply additional regulation on this transformative infrastructure, including premature regulation of IP-to-IP interconnection for voice services, re-institution of dominant carrier regulation of ILEC enterprise broadband services, and unbundling of next-generation fiber loops.

²³ See *Cbeyond* Initial Comments at 16 (suggesting that the Technology Transitions Policy Task Force should only consider those regulatory issues that would not arise “but for” a technology transition).

²⁴ CenturyLink Initial Comments at 9-10.

What the CLECs refer to as “updating competition policies”²⁵ would really be turning back the clock. Turning back the clock to investment-sapping, “maximum unbundling”²⁶ policies that have been repudiated by the U.S. Supreme Court, the D.C. Circuit, and the Commission itself. By even considering such actions, the Commission would undo the regulatory certainty that enabled unprecedented investment and innovation in broadband and IP services.

A. Customers Have Benefited Immensely from the Commission’s Pro-Investment Policies that CLECs Seek to Overturn

Over the past dozen years, the Commission has repeatedly exercised restraint in regulating next-generation networks and services. It has refrained from imposing blanket Title II obligations on broadband Internet services and IP voice services,²⁷ removed most unbundling obligations on ILEC next-generation networks,²⁸ and eliminated dominant carrier regulation of most enterprise broadband services provided by ILECs.²⁹ The Commission took these steps, in part, to spur investment, deployment, and competition, which it did.³⁰

²⁵ Cbeyond Initial Comments at 7.

²⁶ See *USTA v. FCC*, 290 F.3d 415, 426 (2002).

²⁷ See, e.g., *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities; Internet Over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002) (*Cable Modem Order*); *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*; Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 (2005) (*Wireline Broadband Internet Access Order*).

²⁸ *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, 17142 ¶ 273 (2003) (*Triennial Review Order*) (subsequent history omitted).

²⁹ See, e.g., Petition of the Embarq Local Operating Companies for Forbearance Under 47 U.S.C. § 160(c) from Application of Computer Inquiry and Certain Title II Common-Carriage Requirements; Petition of the Frontier and Citizens ILECs for Forbearance Under Section 47

Indeed, the Commission's regulatory restraint with respect to next-generation networks and services has been a resounding success. Competition is thriving, with substantial network deployment by all competitors, whether cable, wireless, or ILEC. CenturyLink and other ILECs have steadily deployed more fiber in their networks and shortened copper loops serving residential customers. These technological changes have enabled millions of consumers to get broadband service for the first time and others to experience improved broadband speeds. Thus, over time, legacy telephone networks have given way to high-speed residential broadband networks offering 10, 20 or even 40 megabits per second. Cable networks sport similar, and even faster, broadband speeds. Voice markets have been transformed as well. At the end of 2011, there were 37 million interconnected VoIP subscriptions in the U.S., a nearly 70% increase in just three years.³¹ Of the nation's 83 million wireline retail local telephone service connections, 37 percent were interconnected VoIP connections.³²

These improvements have brought real and tangible benefits to American consumers. Across various platforms, legacy TDM-based services have been supplanted by IP offerings,

U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Their Broadband Services, Memorandum Opinion and Order, 22 FCC Rcd 19478 (2007); *Qwest Petition for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Broadband Services*, Memorandum Opinion and Order, 23 FCC Rcd 12260 (2008).

³⁰ In fact, tw telecom asserts that its average annual investment in its network from 2009 to 2011 was 22 percent. CBeyond Initial Comments at 30. Nevertheless, some CLECs, including tw telecom, claim that so-called "competition regulations" result in more investment by both CLECs and ILECs, as purportedly demonstrated by comparing telecommunications investment during the periods 1996-2001 and 2002-2007. *Id.* at 9 n.20, 27. However, no analysis is necessary to realize that much more investment -- perhaps *too much* investment -- occurred during the late 1990s' "dot-com bubble," as compared to the years that followed.

³¹ See *Local Telephone Competition: Status as of December 31, 2011*, Industry Analysis and Technology Division, Wireline Competition Bureau, FCC, at 1 (Jan. 2013), available at http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0114/DOC-318397A1.pdf.

³² *Id.* at 3.

transforming the way in which Americans complete such basic, but important, tasks as looking for a job or monitoring their child's progress in school.

These innovations and benefits have been made possible by the Commission's deliberate regulatory restraint. While significant progress has been made, much additional investment will be necessary to bring the fruits of the Commission's broadband policies to all Americans.³³ The Commission therefore should continue to exercise restraint in regulating next-generation IP networks and services.

B. The Commission Should Allow IP-to-IP Interconnection to Be Driven by Economics and Efficiency, Rather than Commission Mandates

Someday, TDM networks will be a thing of the past. Already, many providers view IP voice service as just another IP application, albeit one they may choose to provide with a higher quality of service (QoS) than non-real-time applications. In an all-IP world, regulating interconnection for voice services will likely be no more necessary than it is for IP data services today. As discussed above, however, this transition cannot be done overnight, particularly in the ILECs' expansive local telephone networks. In the meantime, industry standards and practices will continue to develop and evolve as providers gain experience with IP-to-IP voice interconnection. During this period of experimentation and evolving standards, premature regulatory mandates threaten to calcify inefficient interconnection arrangements and arrest the ongoing innovation that characterizes the Internet ecosystem. As the Commission has seen in the TDM environment, such inefficiencies can stifle innovation and create opportunities for arbitrage. The Commission therefore should "maintain a light regulatory approach for IP-based

³³ National Broadband Plan at 29 ("The U.S. must lead the world in broadband innovation and investment and take all appropriate steps to ensure all Americans have access to modern, high-performance broadband and the benefits it enables.").

retail voice service,”³⁴ and allow IP-to-IP interconnection arrangements to develop organically, rather than through premature, ill-fitting Commission rules.

1. IP Voice and Data Networks Will Likely Converge Over Time

Some commenters suggest that IP voice and data networks should converge over time.³⁵ However, CLECs such as XO contend -- with feigned certainty -- that managed IP voice networks will *never* converge with IP data networks exchanging traffic through commercial peering arrangements.³⁶ The Commission need not -- and cannot -- resolve this question. Absent premature regulatory mandate, the telecommunications industry, working with standard-setting bodies, will develop technical configurations and standards for exchanging IP voice traffic via IP-to-IP interconnection in the manner that is most efficient and technologically feasible. Most likely, these configurations and standards will evolve over time and may vary depending on the IP networks that are exchanging traffic, as well as customer demand. While some customers may insist on performance similar to TDM-based voice services, others will not need, or be willing to pay for, such performance.

Those who prophesy that IP data and voice networks will never converge appear to base their assessment on the current lack of standards and mechanisms for exchanging prioritized traffic through commercial peering arrangements.³⁷ This appears to be an unsound basis for such a prediction. The Internet ecosystem is many things; one thing it is not is static. If it is efficient,

³⁴ NCTA Initial Comments at 1.

³⁵ See AT&T Initial Comments at 2; Sprint Initial Comments at 4 (asking for a Commission rule that, unless interconnecting parties agree otherwise, “IP voice traffic should be exchanged at the same locations where non-voice IP traffic is exchanged today (*i.e.*, regional Internet exchange points, or ‘IXPs’).”); T-Mobile Initial Comments at 5 (“There should be a presumption that POIs used for IP voice interconnection will be located at existing Internet exchange points.”).

³⁶ See, e.g., XO Initial Comments at 9-11.

³⁷ See *id.*

cost-effective and technologically feasible for IP data and voice networks to converge, they likely will. Again, the Commission need not resolve this issue. It simply should recognize that no one, including the Commission, can predict how IP networks will develop, and therefore it should give the industry and standard-setting bodies an opportunity to establish standards and practices for exchanging voice traffic in IP format.

2. Any Additional Exercise of Commission Authority Over IP Interconnection Is Premature and Otherwise Unwarranted

The Commission is actively considering IP interconnection for voice service among those issues it raised in the *USF/ICC Transformation Order/FNPRM*.³⁸ Nevertheless, some commenters urge the Commission to establish rules for IP-to-IP interconnection now.

That would be a mistake. As CenturyLink has discussed in detail,³⁹ the migration from TDM to IP will alter the economic principles underlying the current regulatory structure for TDM-based interconnection. The likely convergence of IP voice and data networks will obliterate distinctions between “ILECs” and “CLECs,” generally eliminate the need to regulate voice service differently from others, and forestall a terminating monopoly for voice services provided over such IP networks.⁴⁰ Given this expected convergence, it may well be unnecessary for the Commission to adopt any rules for IP-to-IP interconnection. Moreover, there is a high likelihood that any rules the Commission adopts -- particularly now, before industry standards and practices have developed -- will result in inefficient interconnection arrangements, because such rules would give certain providers a regulatory entitlement to demand interconnection arrangements that further their own best interests, regardless of whether they are efficient

³⁸ *USF/ICC Transformation Order/FNPRM*, 26 FCC Rcd at 18123-47 ¶¶ 1335-98.

³⁹ See Reply Comments of CenturyLink, WC Docket Nos. 10-90, *et al.*, at 11-28 (filed Mar. 30, 2012) (CenturyLink FNPRM Reply Comments).

⁴⁰ *Id.* at 13-17.

overall.⁴¹ Such rules could also have other unintended consequences,⁴² including endless disputes about whether a particular interconnection arrangement falls within the scope of the Commission's rules, unforeseen arbitrage opportunities, and potentially dangerous intervention into as-yet-unregulated IP peering arrangements.⁴³

At this early stage of the TDM-to-IP transition, the theoretical harms supposedly justifying Commission regulation of IP-to-IP interconnection are just that -- theoretical.⁴⁴ In the unlikely event that any of these harms materialize, they will be very apparent and CLECs certainly will waste no time reporting them to the Commission. At that point, assuming there is a legitimate dispute between the interconnecting parties, the Commission can identify the appropriate course based on facts, rather than outdated economic theory. In the meantime, the Commission should "allow the market to experiment and learn from real-world experience before concluding that a prescriptive regulatory regime for IP-to-IP voice interconnection would serve the public interest."⁴⁵ As Google has suggested, "it is in the best interests of all for an

⁴¹ *Id.* at 19-21.

⁴² Comcast Initial Comments at 2 ("regulatory intervention into IP-to-IP interconnection arrangements would be premature and likely would have adverse consequences.").

⁴³ CenturyLink FNPRM Reply Comments at 20-21.

⁴⁴ Until a provider migrates voice customers in an area to an IP network, it would be unreasonable to expect that provider to exchange voice traffic for those customers in IP, because an IP-to-TDM conversion will be necessary to terminate VoIP-originated calls to those customers. Therefore, the Commission should give no weight to a general absence of agreements between ILECs and other parties for exchanging voice traffic in IP format.

⁴⁵ Comcast FNPRM Initial Comments, WC Docket Nos. 10-90, *et al.*, at 25 (filed Feb. 24, 2012). *See also* NCTA Initial Comments at 11 (terms and conditions of interconnection of IP networks should be developed through a "collaborative process among all interested parties," rather than by Commission rule).

industry-led body to take a leading role, at least initially” to address technical issues and develop IP-to-IP interconnection standards and requirements.⁴⁶

3. ILEC-Specific Interconnection Requirements Would Be Particularly Misguided

The Commission should be particularly suspect of proposals to apply asymmetric regulatory obligations under section 251(c)(2) to IP-to-IP interconnection. Section 251’s requirements, enacted in 1996, “were meant to address the difficulties of competitors in providing voice telephony service in a marketplace where incumbent LECs were monopolists with ubiquitous facilities and 100 percent market share.”⁴⁷ That was then, and now is now. Today, less than 40% of households purchase voice services from ILECs, and that number is shrinking at a 10% annual rate.⁴⁸ Even further, the migration to IP networks will fundamentally alter the economic principles upon which section 251 interconnection obligations are based. ILECs therefore will continue to lack any dominance in IP voice services. Section 251(c)(2) mandates on IP-to-IP interconnection therefore would be misguided, both in terms of the Commission’s limited legal authority and sound public policy.⁴⁹

C. The Commission Should Reject CLECs’ Attempts to Turn Back the Clock on Regulation of Next-Generation Networks

CLECs also ask the Commission to reverse a decade of decisions and policies designed to provide incentives for carriers to deploy next-generation broadband networks and services. As noted, these policies have facilitated a broadband revolution that has brought tremendous

⁴⁶ Google FNPRM Initial Comments, WC Docket Nos. 10-90, *et al.*, at 6 (filed Feb. 24, 2012).

⁴⁷ NCTA FNPRM Initial Comments, WC Docket Nos. 10-90, *et al.*, at 5 (filed Feb. 24, 2012).

⁴⁸ CenturyLink Initial Comments at 6.

⁴⁹ CenturyLink FNPRM Reply Comments at 23-28.

benefits to American consumers. The Commission thus should reject the CLECs' attempts to reverse the Commission's pro-investment broadband policies.

Among other things, CLECs appear to ask the Commission to re-impose unbundling requirements for fiber loops and the packetized capabilities of hybrid loops.⁵⁰ A decade ago, in the *Triennial Review Order*, the Commission decided that these next-generation loops should be subject to much narrower unbundling requirements than legacy copper loops, in order to "provide the right incentives for all carriers, including incumbent LECs, to invest in broadband facilities."⁵¹ The Commission found that unbundling limits on ILEC next-generation networks would give ILECs the certainty needed to expand their deployment of these networks and give CLECs incentives to seek innovative network access options to compete with ILECs in the mass market.⁵² If anything, the *Triennial Review Order*'s restrictions on unbundling next-generation networks are even more justified today than they were in 2003. Cable providers continue to be the largest providers of consumer broadband services, and the vast majority of consumers now also have access to *wireless* broadband at speeds comparable to DSL.⁵³

⁵⁰ See, e.g., Cbeyond Initial Comments at 14-15.

⁵¹ The Commission determined that "greater unbundling for legacy copper facilities and more limited unbundling for next-generation network facilities -- appropriately balances our goals of promoting facilities-based investment and innovation against our goal of stimulating competition in the market for local telecommunications services." *Triennial Review Order*, 18 FCC Rcd at 17103-04 ¶ 200.

⁵² *Triennial Review Order*, 18 FCC Rcd at 17142 ¶ 273.

⁵³ This plea to re-impose unbundling requirements on next-generation networks would necessarily require the Commission to wade back into issues of impairment and appropriate investment incentives. In 2006, the D.C. Circuit upheld the *Triennial Review Remand Order* and mercifully ended the Commission's ten-year struggle to establish unbundling rules that complied with the impairment standard in section 251(d)(2). See *Covad v. FCC*, 450 F.3d 528 (D.C. Cir. 2006). Re-opening these issues would create uncertainty and chill investment needed to extend the benefits of broadband to all consumers.

CLECs also urge the Commission to re-impose dominant carrier regulation on enterprise broadband services provided by ILECs.⁵⁴ As CenturyLink will explain in opposition to the CLECs' petition to "reverse" forbearance from this dominant carrier regulation, that petition is fatally flawed in numerous respects. The Commission has neither authority, nor any justification, to take the action requested by the CLECs. This "reversal" of forbearance would harm enterprise customers and again chill needed investment in broadband facilities and services.⁵⁵

Finally, CLECs ask the Commission to take various steps in the pending special access proceeding, including restricting ILECs from employing volume/term discount plans.⁵⁶ The Commission should resist such calls to interfere with the terms and conditions and discount plans that virtually every provider of high-capacity services offers to attract and retain the highly-sophisticated purchasers of these services.⁵⁷

IV. CONCLUSION

For the reasons discussed, the Commission should initiate a proceeding to facilitate the TDM-to-IP transition. In doing so, the Commission should be guided by the overriding principles outlined in CenturyLink's initial comments: (1) regulatory obligations should apply in the same manner to all IP providers; (2) no regulation should be applied in an all-IP world unless it is shown to be useful and necessary, based on real-world experience; and (3) the Commission should establish flexible guidelines for the transition to IP, rather than one-size-fits-all standards

⁵⁴ See, e.g., Cbeyond Initial Comments at 14.

⁵⁵ Ironically, tw telecom is one of the proponents of "dominant" regulation of ILEC enterprise broadband services, even though it has a larger share of the market for Ethernet services than CenturyLink. See *Ethernet Leaderboard*.

⁵⁶ See, e.g., Cbeyond Initial Comments at 10, 14.

⁵⁷ See Comments of CenturyLink, Inc., WC Docket No. 05-25, RM-10593, at 36-44 (filed Feb. 11, 2013).

and deadlines. The Commission also should also reject attempts by CLECs to obtain a competitive advantage by imposing additional unnecessary and counterproductive regulations on next-generation IP networks and services. By adhering to these principles, the Commission will hasten the transition to IP networks and services, with American consumers the ultimate beneficiaries.

Respectfully submitted,

CENTURYLINK

By: /s/ Craig J. Brown
Craig J. Brown
Timothy M. Boucher
1099 New York Avenue, N.W.
Suite 250
Washington, DC 20001
303-992-2503
Craig.J.Brown@CenturyLink.com

Its Attorneys

February 25, 2013