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REDACTED – FOR PUBLIC INSPECTION

February 5, 2015

Via ECFS

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: *In the Matters of Petition for Declaratory Ruling to Clarify That Technology Transitions Do Not Alter The Obligation of Incumbent Local Exchange Carriers to Provide DS1 and DS3 Unbundled Loops Pursuant to 47 U.S.C. § 251(c)(3); Technology Transitions, WC Docket No. 15-1; GN Docket No. 13-5 – Comments of CenturyLink*

Dear Ms. Dortch:

Enclosed for filing in the above-referenced proceedings are the Comments of CenturyLink in response to the Commission's January 6, 2015 Public Notice on Windstream's Petition for Declaratory Ruling concerning incumbent LEC obligations to provide DS1s and DS3s on an unbundled basis subsequent to technology transitions.¹ The Comments include confidential information that is proprietary commercial information of CenturyLink that is entitled to confidential treatment and protection from public disclosure.

The confidential information is protected from public disclosure pursuant to the terms of the Protective Order adopted in GN Docket No. 13-5 (and GN Docket No. 12-353),² and consistent

¹ Public Notice, DA 15-4 (Jan. 6, 2015) (Jan. 6th Public Notice); Petition for Declaratory Ruling of Windstream Corporation, WC Docket No. 15-1 and GN Docket No. 13-5 (Dec. 29, 2014).

² 29 FCC Rcd 2014 (rel. Feb. 27, 2014) (or GN Docket No. 13-5 Protective Order).

with the justification for confidential treatment under 47 C.F.R. §§ 0.457, 0.459 as detailed in the Appendix attached to this correspondence.³

The confidential information identifies the number of customer locations CenturyLink is working to gain Ethernet Local Access to (via contracts with cable companies) in order to serve buildings not served by its own incumbent LEC network. CenturyLink considers this information to be confidential commercial information that is not otherwise available via public sources, is not routinely available for public inspection and thus is entitled to confidential protection under FOIA⁴ and the Commission's implementing rules, 47 C.F.R. §§ 0.457, 0.459.

Consistent with the confidential nature of the information provided and the Protective Order, each page of the non-redacted version of its Comments is marked "**CONFIDENTIAL INFORMATION – SUBJECT TO PROTECTIVE ORDER IN GN DOCKET NO. 13-5 BEFORE THE FEDERAL COMMUNICATIONS COMMISSION**". The confidential information included in the Comments is competitively sensitive commercial information that is not available from public sources and thus should not be available for public disclosure. Such information would not ordinarily be made available to the public. Release of this confidential information would have a negative competitive impact on CenturyLink.

Pursuant to the Protective Order, CenturyLink is submitting to the Secretary's office one copy of the non-redacted version of its submission that includes the confidential information (cover letter and Comments). Additionally as required by the Protective Order, CenturyLink is separately providing two copies of the non-redacted version with the confidential information to Jonathan Reel of the Wireline Competition Bureau (cover letter and the Comments).

CenturyLink is also submitting today under separate cover, via the ECFS, a redacted version of this submission. The redacted submission is marked "**REDACTED – FOR PUBLIC INSPECTION**," with the confidential information omitted.

³ CenturyLink observes that its Comments are being filed in both WC Docket No. 15-1 and GN Docket No. 13-5, pursuant to the second paragraph of the Jan. 6th Public Notice. CenturyLink's Comments, which contain confidential information, are annotated consistent with the requirements of the Protective Order adopted in GN Docket No. 13-5 (and GN Docket No. 12-353), except that these markings omit the reference to GN Docket No. 12-353, which is not relevant to Windstream's petition. CenturyLink notes that its appended Confidentiality Justification under 47 C.F.R. §§ 0.457, 0.459 is meant in part to justify confidential treatment for the Comments for purposes of WC Docket No. 15-1, wherein no Protective Order has been adopted to date by the Commission.

⁴ 5 U.S.C. § 552. *See also* Protective Order, ¶ 2.

Ms. Marlene H. Dortch

February 5, 2015

Page 3

The text of this letter, which contains no confidential information, is the same for both the non-redacted and redacted versions except for the confidentiality markings and the manner of submission noted in the heading on the initial page.

Please contact me via the above contact information or Melissa Newman in CenturyLink's Federal Regulatory Affairs office (202-429-3120) if you have any questions.

Sincerely,

/s/ Craig J. Brown

Enclosure

cc: Jonathan Reel (two copies of non-redacted submission)

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APPENDIX

Confidentiality Justification

47 C.F.R. § 0.457

Information included in CenturyLink's February 5, 2015 Comments is entitled to confidential treatment under 47 C.F.R. § 0.457 as well as the February 27, 2014 Protective Order in GN Docket No. 13-5 (and GN Docket No. 12-353).⁵ The confidential information identifies the number of customer locations CenturyLink is working to gain Ethernet Local Access to (via contracts with cable companies) in order to serve buildings not served by its own incumbent LEC network. This is the type of confidential and proprietary commercial information not routinely available for public disclosure by the Commission and thus is protected from public availability under 47 C.F.R. § 0.457(d). This kind of information is also covered under the GN Docket No. 13-5 Protective Order as it is competitively sensitive commercial information not otherwise available from public sources and thus is entitled to confidential treatment and protection from public disclosure.

47 C.F.R. § 0.459

CenturyLink also considers the confidential information submitted with its February 5, 2015 Comments as protected from public disclosure pursuant to 47 C.F.R. § 0.459(b) as described as follows.

Information for which confidential treatment is sought

CenturyLink seeks confidential treatment for information included with its February 5, 2015 Comments, which is confidential and proprietary commercial information that is protected from public disclosure and availability. As such, this information is marked "**CONFIDENTIAL INFORMATION – SUBJECT TO PROTECTIVE ORDER IN GN DOCKET NO. 13-5 BEFORE THE FEDERAL COMMUNICATIONS COMMISSION**".

Commission proceeding in which the information was submitted

The February 5, 2015 Comments are being submitted in WC Docket No. 15-1 and GN Docket No. 13-5, *In the Matters of Petition for Declaratory Ruling to Clarify That Technology*

⁵ 29 FCC Rcd 2014 (rel. Feb. 27, 2014).

Transitions Do Not Alter The Obligation of Incumbent Local Exchange Carriers to Provide DSI and DS3 Unbundled Loops Pursuant to 47 U.S.C. § 251(c)(3); Technology Transitions.

Degree to which the information in question is commercial or financial, or contains a trade secret or is privileged

The competitive information designated as confidential in the Comments concerns CenturyLink's existing and/or potential contracts with wholesale partners. As noted above, this data is competitively sensitive information that is not normally released to the public, as such release would have a substantial negative competitive impact on CenturyLink. This data would reveal both the extent of CenturyLink's and/or its suppliers' penetration in an important service market and the availability of competitive alternative sources of customer access. Such data would provide competitors with valuable insight into CenturyLink's business plan and operations, as well as those of other entities with which CenturyLink does business.

Degree to which the information concerns a service that is subject to competition; and manner in which disclosure of the information could result in substantial competitive harm

The type of confidential information in CenturyLink's Comments generally would not be subject to routine public inspection under the Commission's rules (47 C.F.R. § 0.457(d)), demonstrating that the Commission already anticipates that its release is likely to cause competitive harm. The services CenturyLink provides, including those under discussion in the Comments, are all competitive. The release of this confidential proprietary information would cause competitive harm by allowing competitors to become aware of sensitive commercial information regarding CenturyLink's business and internal operations.

Measures taken to prevent unauthorized disclosure; and availability of the information to the public and extent of any previous disclosure of the information to third parties

CenturyLink has treated and treats the confidential information disclosed in its Comments as confidential, and has protected it from public disclosure.

Justification of the period during which CenturyLink asserts that the material should not be available for public disclosure

At this time, CenturyLink cannot determine any date on which the confidential information included in its Comments should not be considered confidential.

Ms. Marlene H. Dortch

February 5, 2015

Page 6

Other information that CenturyLink believes may be useful in assessing whether its request for confidentiality should be granted

Under applicable FCC and court rulings, the information in question should be withheld from public disclosure. Exemption 4 of the Freedom of Information Act shields information that is (1) commercial or financial in nature; (2) obtained from a person outside government; and (3) privileged or confidential. The information in question satisfies this test.

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Petition for Declaratory Ruling to Clarify)	WC Docket No. 15-1
That Technology Transitions Do Not Alter)	
The Obligation of Incumbent Local Exchange)	
Carriers to Provide DS1 and DS3 Unbundled)	
Loops Pursuant to 47 U.S.C. § 251(c)(3))	
)	
Technology Transitions)	GN Docket No. 13-5

COMMENTS OF CENTURYLINK

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February 5, 2015

TABLE OF CONTENTS

	PAGE
I. INTRODUCTION AND SUMMARY	1
II. THE <i>TRIENNIAL REVIEW ORDER</i> 'S CONCERNS ABOUT DISCOURAGING INVESTMENT IN FIBER NETWORKS APPLY EQUALLY TO MASS MARKET AND ENTERPRISE LOOPS.	6
A. All Competing Providers Face the Same Entry Barriers.	8
B. All Competing Providers Have the Same Revenue Opportunities.	11
C. The Additional Cost of DS1/DS3 Unbundling on a Fiber-Based IP Network, Which Is Not Reflected in Current TELRIC Rates, Would Outweigh Any Benefit of Such Unbundling.	17
D. Refraining from DS1/DS3 Unbundling Would Promote Investment, Innovation and the IP Transition.	18
III. THE COMMISSION SHOULD FORBEAR, AS NECESSARY, TO PRESERVE INCENTIVES FOR INVESTMENT.....	20
IV. CONCLUSION.....	20

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Loops Pursuant to 47 U.S.C. § 251(c)(3))	
)	
Technology Transitions)	GN Docket No. 13-5

COMMENTS OF CENTURYLINK

CenturyLink hereby files its Comments in response to Windstream’s Petition for Declaratory Ruling in the above-captioned proceedings.¹

I. INTRODUCTION AND SUMMARY.

Over the past year, the Commission has taken important steps to facilitate the ongoing transition from TDM to IP services. In the *Technology Transitions Order*, the Commission created a framework for service-based experiments exploring the TDM-to-IP transition.² In doing so, the Commission recognized that network providers have invested billions of dollars “to transition legacy networks and services to next generation technologies” and would be

¹ Petition for Declaratory Ruling of Windstream Corporation, *In the Matter of Petition for Declaratory Ruling to Clarify that Technology Transitions Do Not Alter the Obligation of Incumbent Local Exchange Carriers to Provide DS1 and DS3 Unbundled Loops Pursuant to 47 U.S.C. § 251(c)(3)*, WC Docket No. 15-1, GN Docket No. 13-5 (filed Dec. 29, 2014). These comments are filed by, and on behalf of, CenturyLink, Inc. and its subsidiaries.

² *In the Matter of Technology Transitions; AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition; Connect America Fund; Structure and Practices of the Video Relay Service Program; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; Numbering Policies for Modern Communications*, Order, Report and Order and Further Notice of Proposed Rulemaking, Report and Order, Order and Further Notice of Proposed Rulemaking, Proposal for Ongoing Data Initiative, 29 FCC Rcd 1433, 1435 ¶ 1 (rel. Jan. 31, 2014). (Technology Transitions Order)

committing billions more in upcoming years.³ The Commission further acknowledged that “[m]odernizing communications networks can dramatically reduce network costs, allowing providers to serve customers with increased efficiencies that can lead to improved and innovative product offerings and lower prices.”⁴ Among other things, the Commission therefore invited interested providers to submit detailed proposals examining “the impacts of replacing existing customer services with IP-based alternatives in discrete geographic areas or ways.”⁵

In November, CenturyLink did so, submitting a proposal for a service trial with two CLECs in twelve wire centers in Las Vegas, which would explore the TDM-to-IP transition’s impacts on business end users *and* providers exchanging Voice over Internet Protocol (VoIP) traffic through commercially negotiated connectivity utilizing Session Initiation Protocol.⁶ Also in November, the Commission revisited and sought comment on its copper retirement and service discontinuance rules, to ensure that the inevitable IP transition does not disrupt the principles embodied in the Communications Act.⁷

³ *Id.* at ¶ 2.

⁴ *Id.*

⁵ *Id.*, 29 FCC Rcd at 1436 ¶ 5.

⁶ CenturyLink Proposal for IP Service Trial and Request for Declaratory Ruling, *In the Matter of Technology Transitions; AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition*, GN Docket Nos. 13-5, 12-353 (filed Nov. 12, 2014).

⁷ *In the Matter of Ensuring Customers Premises Equipment Backup Power for Continuity of Communications; Technology Transitions; Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers; Special Access for Price Cap Local Exchange Carriers; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, PS Docket No. 14-174, GN Docket No. 13-5, RM-11358, WC Docket No. 05-25, RM-10593, Notice of Proposed Rulemaking and Declaratory Ruling (rel. Nov. 25, 2014). The NPRM also sought comment on certain issues related to ensuring backup power for customers’ premises equipment.

Against this backdrop, Windstream now urges the Commission to take a step backward, by perpetuating TDM functionality, in the form of DS1 and DS3 unbundling, in all-IP networks, including those incorporating fiber loops. The Commission should not endorse this short-sighted request. Instead, it should confirm that the concerns in the *Triennial Review Order*⁸ that led the Commission to curtail unbundling requirements on fiber loops continue to apply today, whether a loop is used to serve mass market or enterprise customers, and that overlaying TDM-based DS_n technology on next-generation networks is both unnecessary and unwarranted.

The IP transition is well underway. For its part, CenturyLink has committed billions of dollars to push fiber facilities closer to end users. In August, CenturyLink announced the launch of gigabit broadband service to 16 cities.⁹ Over time, it hopes to expand such services to other locations as well. Nevertheless, given the predominately rural character of its service territory, CenturyLink's evolution to an all-fiber, IP network is likely to be an extended process. The pace of that transition will depend, in part, on the ease with which the company can decommission legacy facilities and services and transition customers to new facilities and services. Again, Windstream's requested DS_n mandate would be a step backward in that regard.

The enterprise marketplace is steadily progressing beyond TDM-based DS1 and DS3 services. All communications services have a natural life cycle and DS_n services will be nearing

⁸ *In the Matter of 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 (2003) subsequent history omitted. (*Triennial Review Order*)

⁹ *CenturyLink Brings Gigabit Broadband to 16 Cities: Seattle, Denver, and More*, PC World, available at <http://www.pcworld.com/article/2461431/centurylink-brings-gigabit-broadband-to-16-cities-seattle-denver-and-more.html> (Aug. 5, 2014).

the end of theirs. Burgeoning capacity needs have reduced the preeminent role these services once played, culminating in a decisive and irreversible shift to competitively provisioned, packet-based Ethernet services. IDC forecasts that, by 2017, DS1 and Dedicated Internet Access services combined will account for only 3 percent of the broadband marketplace for small and medium businesses.¹⁰ Not surprisingly, DSn equipment manufacturers have begun to discontinue the equipment used to provide these aging services.

Nevertheless, as Chairman Wheeler noted last year, “[d]ue in part to outdated rules, the majority of the capital investments made by U.S. telephone companies from 2006 to 2011 went toward maintaining the declining telephone network, despite the fact that only one-third of U.S. households use it at all.”¹¹ Remarkably, Windstream’s petition would perpetuate this inefficient, backwards-looking investment even after an ILEC has transitioned to a fiber-based, all-IP network. Such an approach would frustrate the Commission’s efforts to promote the transition from copper networks to fiber and TDM services to IP.

Indeed, CenturyLink has no reason to incorporate increasingly-obsolete DSn technology, which dates back to the 1950s, into its next-generation, fiber-based IP networks, unless compelled to do so by regulation. Given the availability of superior services, such as Ethernet, the falling demand for DSn services simply does not justify the significant expense of overlaying these services on a modern IP network.

¹⁰ IDC, *Market Analysis Perspective: U.S. SMB Telecom, Broadband, and Video, 2014* at 11 (*IDC Market Analysis Perspective*).

¹¹ Tom Wheeler, Chairman, FCC, Prepared Remarks at Silicon Flatirons, University of Colorado Law School, Boulder, Colorado at 5 (Feb. 10, 2014), *available at* <http://www.fcc.gov/document/fcc-chairman-tom-wheeler-remarks-silicon-flatirons>.

Windstream and other competing providers also enjoy ample alternatives to unbundled DS1 and DS3 loops. CenturyLink knows this from its own experience operating as a CLEC outside its ILEC footprint. In that capacity, CenturyLink currently obtains Ethernet Local Access to buildings not served by its own network. It does so through a combination of Ethernet Local Access purchased from CLECs that primarily use their own facilities and Ethernet-over-Copper (EoC), cable companies using fiber and hybrid fiber coax to provide Ethernet, and ILECs offering wholesale services. CenturyLink is currently working toward gaining access to more than **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]** customer locations through contracts with cable companies. Notably, such cable facilities are completely independent from ILEC networks. Thus, Windstream’s claim that unbundling of TDM DS1 and DS3 loops will remain essential to competition—even as the industry moves to fiber-based IP services—is simply not credible.

More than a decade ago in the *Triennial Review Order*, the Commission determined that extending unbundling requirements to fiber facilities will discourage investment by both ILECs and their customers. As the Commission found in that order, all competing providers face largely the same entry barriers in deploying fiber loops and have the same revenue opportunities. That is particularly the case for loops used to serve enterprise customers, as for mass market loops. Today, nearly all competing providers are capitalizing on the opportunity to sell business customers cloud-based services, managed services and other over-the-top services that were unknown in 2003.

If required to offer unbundled DS_n loops through its new fiber deployments, CenturyLink will have to make costly network and systems modifications solely to provide DS_n services that

almost no one will want. Such expenses will serve little purpose, as the shift to Ethernet services continues and the demand for DS1 and DS3 services evaporates. Thus, the regulatory mandate sought by Windstream clearly will encumber the already tenuous business case for fiber deployment and IP migration that exists outside most urbanized areas. It also will prolong competitors' reliance on outdated technology and therefore impede innovation.

If the Commission concludes, despite these compelling concerns, that its current rules or orders require the unbundling sought in Windstream's petition, it therefore should exercise its forbearance authority to eliminate these outdated unbundling requirements to advance the transition to IP networks and services.

II. THE TRIENNIAL REVIEW ORDER'S CONCERNS ABOUT DISCOURAGING INVESTMENT IN FIBER NETWORKS APPLY EQUALLY TO MASS MARKET AND ENTERPRISE LOOPS.

In the *Triennial Review Order*, the Commission drew a "bright line" between legacy technology and newer technology and dramatically reduced unbundling obligations for all-fiber loops.¹² In particular, it declined to attach unbundling requirements to the next-generation network capabilities of such loops, to facilitate a "race to build next generation networks and . . . increase[] competition in the delivery of broadband services."¹³ For "greenfield" fiber-to-the-home (FTTH) loops, the Commission eliminated unbundling requirements entirely,¹⁴ finding the entry barriers for these facilities were largely the same for ILECs and their competitors.¹⁵ For overbuilt, or "brownfield," FTTH loops, the Commission eliminated unbundling requirements as

¹² *Triennial Review Order*, 18 FCC Rcd 16978, 17141-53, ¶¶ 272-95.

¹³ *Id.* at 17141-42 ¶ 272.

¹⁴ *Id.* at 17142 ¶ 273.

¹⁵ *Id.* at 17143 ¶ 275.

well, except where the ILEC elected to retire existing copper loops, in which case the fiber loops were required to be unbundled for narrowband services only.¹⁶

In taking these actions, the Commission found that the substantial revenue opportunities posed by FTTH deployment helped ameliorate many of the barriers presented by fiber deployment.¹⁷ It also judged that the costs associated with unbundling new packet-based facilities outweighed the potential benefits,¹⁸ and that refraining from unbundling ILEC's next-generation network facilities and equipment would "promote innovation in infrastructure," consistent with the Commission's mandate under Section 706.¹⁹ As noted, CenturyLink has utilized this favorable regulatory treatment to launch gigabit service offerings that will deliver a video alternative, as well as faster Internet speeds, in competition with cable-provided services.

While the *Triennial Review Order's* analysis focused on loops used to serve mass market customers,²⁰ the policy concerns underlying the limits it placed on unbundling pertain just as much, if not more, to fiber loops used to serve enterprise customers today: All competing providers face the same entry barriers and revenue opportunities in deploying such loops; the

¹⁶ *Id.* at 17142 ¶ 273. In the *FTTC Order*, the Commission extended the *Triennial Review Order's* unbundling relief for FTTH loops to FTTC loops as well. *In the Matter of 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*, CC Docket Nos. 01-338, 96-98, 98-147, Order on Reconsideration, 19 FCC Rcd 20293 (rel. Oct. 18, 2004), subsequent history omitted.

¹⁷ *Triennial Review Order*, 18 FCC Rcd at 17142-43 ¶ 274.

¹⁸ *Id.* at 17153 ¶ 295.

¹⁹ *Id.*

²⁰ Nevertheless, the Commission acknowledged in that Order the TDM nature of DS1 and DS3 services, noting that those services are "non-packetized, high-capacity capabilities provided over the circuit switched networks of incumbent LECs." *Id.* at 17152 ¶ 294. Thus, even in 2003, the Commission recognized that DS_n services are rooted in legacy TDM networks.

cost of DS1/DS3 unbundling would exceed any potential benefit; and refraining from such unbundling would promote investment and innovation by both ILECs and their competitors and aid the TDM-to-IP transition.

A. All Competing Providers Face the Same Entry Barriers.

Whether a fiber loop is used to serve mass market or enterprise customers, ILEC and non-ILEC competitors face the same entry barriers when deploying such a loop. Thus, it defies logic to impose onerous DS1 and DS3 unbundling obligations on ILECs alone.

Just like other carriers, CenturyLink typically does not construct fiber facilities “on spec,” but rather only when it wins a customer that will provide sufficient revenue to economically justify the deployment. In such “new build” situations, an ILEC does not possess significant first-mover advantages, even when it has copper facilities to the customer location. When an ILEC deploys fiber to a commercial building, it must obtain access rights from the building owner, just like a CLEC, because it needs space and power in the building for its fiber-terminating devices.²¹ In addition, just like a CLEC, the ILEC typically must install (or have the building owner install) fiber inside wiring from the terminating device to the end user customer.²² Thus, the ILEC must, at a minimum, negotiate various types of permission from the building owner, and in many instances must also compensate the building owner for this access.²³ The ILEC must also obtain access to, and any necessary permits for, conduit from the property line to

²¹ Fiber-based terminating equipment requires electrical power to operate.

²² The presence of any existing copper inside wire in the building is of no use in providing these services.

²³ CenturyLink’s existing agreements and easements with building owners for copper-based facilities typically are not sufficient to give it the additional access rights needed to deploy and provide fiber-based services in a building.

the building to deploy its fiber, even if it is using the conduit for copper facilities. Such conduit frequently is owned and controlled by the building owner, so again CenturyLink has no advantage with respect to this aspect of deploying fiber facilities. To the extent conduit or right of way is owned by the ILEC, competitors can secure access to that conduit at regulated rates, terms and conditions.²⁴ Finally, just like a CLEC, the ILEC must acquire any necessary permits for deploying its facilities in municipal rights of way. Thus, ILECs possess no meaningful advantage over competitors in deploying fiber loops to serve enterprise customers.

Indeed, CLECs are “investing heavily” in extending their own fiber to end user locations, such as office buildings and wireless towers.²⁵ According to *Current Analysis*, “Level 3 led this segment in 2014 by closing on tw telecom, adding that company's 21,300+ lit buildings to its footprint.”²⁶ In contrast, Zayo Group “has for years grown its network both through investment and acquisition.”²⁷ For their part, Windstream, XO and other CLECs “are stepping up their access network investments.”²⁸ XO, in particular, has established “a \$500 million sweeping investment plan, which includes lighting more than 1,000 additional buildings in 2015.”²⁹ If anything, cable providers are even more aggressively expanding their access networks into

²⁴ See 47 U.S.C. § 224.

²⁵ Brian Washburn, *Current Analysis*, U.S. WAN Services Update: A Look at Access Fiber, SDN, NFV, APIs and Automation, at 2-3 (Jan. 22, 2015).

²⁶ *Id.* at 2.

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.*

commercial buildings. “The cable providers’ business model is all about local infrastructure, and they have been extending fiber rapidly to serve new buildings.”³⁰

And there are various competitive alternatives that do not require a provider to build its own fiber. Competitors relying on unbundled ILEC copper loops are transforming the industry with robust deployment of Ethernet-over Copper (“EoC”) services. Although EoC is clearly a transitional technology, likely to be supplanted by new non-ILEC fiber deployments over time, today it offers additional options for competitors, with speeds of more than 100 Mbps in certain areas.³¹ Over the past several years, competitors have successfully launched and marketed EoC services in numerous areas served by CenturyLink.³² In February 2014, for example, Integra Telecom announced that it had expanded its EoC footprint to 187 on-network Local Serving Offices, enabling the carrier to reach more than 460,000 businesses in over 140,000 commercial buildings in California, Colorado, Idaho, Minnesota, Oregon, Utah and Washington.³³ To be sure, EoC is not likely to serve as a long-term alternative to fiber-based Ethernet, but this option

³⁰ *Id.* See also Cindy Whelan, *Current Analysis*, Comcast Business – Business Services US, at 2 (Oct. 17, 2014) (“Metro Ethernet is a strong focus for Comcast, and the operator has been very active in extending its fiber network to new markets to support delivery of Ethernet services up to 10 Gbps.”)

³¹ See *High Performance Ethernet*, Adtran website, available at <http://www.adtran.com/web/page/portal/Adtran/group/4208>.

See also Letter from Joshua M. Bobeck et al., Counsel to Mpower Communications Corp., U.S. TelePacific Corp., CAN Communications Services, Inc., Level 3 Communications, TDS Metrocom, LLC, and Telecommunications for the Deaf and Hard of Hearing, Inc., 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) (noting availability of EoC at speeds of 3 to 50 Mbps).

³² See CenturyLink Petition for Forbearance, WC Docket No. 12-60, Declaration of Ryan Schwertner (filed Feb. 23, 2012).

³³ Press Release, *Integra Increases Ethernet over Copper Access More than 25 Percent* (Feb. 4, 2014), available at <http://www.integratelecom.com/about/news/pages/integra-increases-ethernet-over-copper-access-more-than-25-percent.aspx>.

is bridging the gap as competitive fiber is built out, and underscores the wealth of competitive options in the marketplace.

As a company that also provides services as a CLEC outside its ILEC footprint, CenturyLink understands the importance of alternative access in helping to facilitate the TDM-to-IP transition. Because CenturyLink's wireline footprint is limited, and having the flexibility to offer new products and services is key to its success, CenturyLink must rely on other wholesale providers to serve its customers and support the strategic services in which it is investing for the future. For instance, in its CLEC service territories, CenturyLink currently obtains Ethernet Local Access to buildings not served by its own network through Ethernet Local Access purchased from a combination of CLECs that primarily use their own facilities and EoC, cable companies that use fiber and hybrid fiber coax to provide Ethernet, and ILECs that offer wholesale services. CenturyLink is currently working toward gaining access to more than [BEGIN CONFIDENTIAL] [END CONFIDENTIAL] customer locations through contracts with cable companies. Notably, such last-mile cable facilities stand completely independent from ILEC networks. Thus, Windstream and other competing providers possess ample alternatives to the unbundled DS1 and DS3 loops Windstream seeks to perpetuate in an all-IP world.

B. All Competing Providers Have the Same Revenue Opportunities.

Although enterprise customers may subscribe to a different mix of services than mass market customers, ILECs and their competitors share the same substantial revenue opportunities

when deploying fiber to serve enterprise markets.³⁴ And those revenue opportunities have multiplied since 2003, in the form of competitively-provided Ethernet, cloud and other over-the-top services.

Burgeoning capacity needs have reduced the preeminent role once played by the limited services available over DSn-capacity facilities traditionally provided by ILECs, culminating in a decisive and irreversible shift to competitively provisioned, packet-based Ethernet services.³⁵ Ethernet services are economical substitutes for DS1 and DS3 facilities and provide speeds many times higher than those legacy offerings. Consequently, business users of all sizes, as well as wholesale customers, are trading in ILEC-provided data services, including DS1s and DS3s, for more efficient and scalable services, such as Ethernet and multi-protocol label switching (MPLS) service. IDC forecasts that, by 2017, DS1 and Dedicated Internet Access services combined will account for only 3 percent of the broadband marketplace for small and medium businesses.³⁶

Wireless providers particularly appreciate the flexibility that Ethernet offers because it is easily scalable as demand grows at a particular cell site. This has drastically undercut reliance on DSn circuits. For instance, from March 2011 to December 2012 the number of DS1 special access circuits AT&T provided to wireless providers had dropped by more than 30 percent, and

³⁴ See *Triennial Review Order*, 18 FCC Rcd at 17142-43 ¶ 274 (finding that competing providers had substantial revenue opportunities when deploying fiber loops).

³⁵ See, e.g., Reply Comments of Alcatel-Lucent at 2, GN Docket No. 13-5 (filed Aug. 7, 2013) (“[In 2012], Alcatel-Lucent saw IP extension shipments outperform TDM extensions by a wide margin as a consequence of key global IMS deployments. North America led the world in the transition to IP networks. . . . [T]raditional TDM voice services have declined at rates as high as 10% per year, leaving the installed base of Class 5 switch equipment operating at less than two-thirds of its initial engineered capacity.”); Joint Comments of NTCA *et al.* at 7, GN Docket No. 14-126 (filed Sept. 4, 2014) (reporting that 87 percent of middle mile facilities in use by NECA traffic sensitive pool members in 2014 were Ethernet, compared to 8 percent for DS1 and DS3).

³⁶ See *IDC Market Analysis Perspective* at 11.

AT&T sales of DS1 circuits to wireline customers had likewise begun to decline.³⁷ Those trends continued in the period from March 2011 to August 2014, when AT&T's DS1 special access circuits provided to wireless providers in its incumbent territories dropped by more than 60 percent.³⁸ CenturyLink's experience is similar – from January 2012 to December 2014, the number of DS1 special access circuits it provided declined by 36 percent. Unbundled DS1 and DS3 loops have incurred similar declines as well. From the beginning of 2012 to the end of 2014, CenturyLink's base of DS1 unbundled loops declined 14 percent, while its base of DS3 unbundled loops fell by more than 40 percent. In fact, across its ILEC service territory, CenturyLink now has only a negligible number of unbundled DS3 loops in service.

Thus, customers increasingly view Ethernet service as a superior alternative to DS1s and DS3s.³⁹ Consumer demand has driven the robust growth of the Ethernet services market. This migration, which continued to accelerate last year,⁴⁰ is widely anticipated to persist into the

³⁷ AT&T Reply Comments, Casto Reply Declaration, at 12-13 ¶¶ 28-29, WC Docket No. 05-25 (filed Mar. 12, 2013).

³⁸ Letter from Robert C. Barber, AT&T, to Marlene H. Dortch, FCC, at 5, WC Docket No. 05-25 (Oct. 10, 2014).

³⁹ See, e.g., Nav Chander, IDC, U.S. Carrier Ethernet Services 2013-2017 Forecast, IDC #243425, at 2 (Sept. 2013) (“Demand for Ethernet connectivity remains robust, in particular for high-bandwidth usage and as an alternative to frame relay or even private line.”); The Insight Research Corporation, US Carriers and Ethernet Services: 2013-2018, at 73 (Aug. 2013) (“Customers continue leaving private line and frame relay for Ethernet, as well as placing new applications on Ethernet rather than expanding their use of legacy services.”).

⁴⁰ Vertical Systems Group, Mid-Year 2014 U.S. Carrier Ethernet LEADERBOARD, (Aug. 20, 2014), available at <http://www.verticalsystems.com/vsglb/mid-year-2014-u-s-carrier-ethernet-leaderboard/> (“...During the first half of 2014, more new Ethernet customer ports were installed than during any previous corresponding period[.]”).

foreseeable future. U.S. carrier Ethernet revenues, which crossed \$4 billion in 2013, are expected to top \$10 billion in 2018.⁴¹

The rise of scalable Ethernet offerings as the industry standard has occurred in a marketplace in which a host of providers, including Windstream, compete for customers with disparate needs. As the Commission has recognized, enterprise broadband services frequently bring in revenues sufficient to justify competitive deployment.⁴² In recent years, dozens of competitive fiber providers have capitalized on mushrooming bandwidth needs and the falling costs of fiber deployment by providing carrier- and enterprise-grade Ethernet services over their ever-more ubiquitous long-haul and metropolitan networks. There are no “incumbents” in this market segment. Every major cable operator now competes aggressively for enterprise customers.⁴³ Business Ethernet services are also “being offered by numerous non-incumbents, including . . . CLECs and formerly IP/MPLS virtual network operators (VNOs).”⁴⁴ In mid-year

⁴¹ Frost & Sullivan, Research Preview for the Business Carrier Ethernet Services Market Update, 2014, at 7 (Mar. 2014).

⁴² See, e.g., *AT&T Title II and Computer Inquiry Forbearance Order*, 22 FCC Rcd 18705, 18720 ¶ 24 (2007) (“[T]he large revenues [enterprise] customers generate, and their need for reliable service and dedicated equipment, provide a significant incentive to suppliers to build their own facilities where possible, and to carry the traffic of these customers over the suppliers’ own networks [citation omitted].”).

⁴³ See, e.g., Letter from Robert C. Barber, AT&T, to Marlene H. Dortch, FCC, at 2-3 (Oct. 10, 2014) (“Comcast just reported that its business services revenue increased 22 percent in the second quarter of 2014 to an annual run-rate of \$4 billion, . . . and Cablevision similarly reported that its second quarter revenues increased 6.7 percent to \$88 million. [citations omitted]”); Corrected Transcript of Time Warner Cable, Inc., Q4 2012 Earnings Call, at 5 (Jan. 31, 2013) (Robert D. Marcus, President & Chief Operating Officer, Time Warner Cable, Inc. (noting that, in 2012, TWC doubled the number of commercial buildings connected to fiber, and enjoyed “organic growth of more than 20%” among enterprise customers)).

⁴⁴ Charles Carr, Yankee Group, *Forecast: Carrier Ethernet is Finally Unleashed*, at 4 (Apr. 26, 2011).

2014, the top ten business Ethernet service providers included tw telecom, Level 3, and XO.⁴⁵ And with its acquisition of tw telecom, Level 3 leapfrogged CenturyLink as an Ethernet provider.⁴⁶ For its part, XO emphasizes that its network assets include “Ethernet access and services to more than 2 million business locations nationwide.”⁴⁷ Level 3 has observed that “the market will continue to move toward Ethernet based services and higher speed interfaces,” and boasts that it has “positioned [itself] to be able to deliver these capabilities for both our own IP network needs as well as those of our customers.”⁴⁸ In addition to these market leaders, at least 35 other competitive providers offer business Ethernet services in various regions of the U.S. today.⁴⁹

In addition, nearly all communications providers—again, including Windstream—have expanded into cloud services, managed services, data hosting, and various over-the-top offerings that were unknown at the time of the *Triennial Review Order*, giving these providers new potential revenue streams to fund fiber deployment. Frost & Sullivan believes that communication service providers’ (CSPs) current market opportunity in Infrastructure as a Service (IaaS) is “just the tip of the iceberg. In the future, CSPs will be able to bundle a wide

⁴⁵ See Vertical Systems Group, Mid-Year 2014 U.S. Carrier Ethernet LEADERBOARD, (Aug. 20, 2014), available at <http://www.verticalsystems.com/vsglb/mid-year-2014-u-s-carrier-ethernet-leaderboard/>.

⁴⁶ *Id.*

⁴⁷ See XO Communications, *Network Reach*, available at <http://www.xo.com/why/the-right-network/reach/>.

⁴⁸ Level 3 Communications, Inc., Form 10-K, at 18 (Securities and Exchange Commission, filed Feb. 27, 2014), available at <http://d1lge852tjjgow.cloudfront.net/NasdaqGlobal-LVLT/fb1d05c4-ab76-4d5b-9974-a2109d013563.pdf>.

⁴⁹ See Vertical Systems Group, Mid-Year 2014 U.S. Carrier Ethernet LEADERBOARD, (Aug. 20, 2014), available at <http://www.verticalsystems.com/vsglb/mid-year-2014-u-s-carrier-ethernet-leaderboard/>.

range of Information and Communication Technology (ICT) services and solutions, including data center services, cloud services, IP voice and unified communication (UC), private Virtual Private Networks (VPNs), managed security services, enterprise mobility, and others, to tap into a bigger share of enterprise [information technology] IT spending.”⁵⁰ Such add-on IT services are “becoming a fixture in SMB [small-medium business] subscription packages[, thus] blurring the lines between IT and [c]omm[unication]s channel[s].”⁵¹

For example, Windstream “has made a transition from a primarily rural voice and Internet provider focused on consumers and small businesses, to a nationwide provider targeting enterprises with a suite of voice, fiber-based data networking and managed services.”⁵² According to Windstream’s CEO, “[w]hen somebody wants to buy cloud services, managed services, where we can really add value, we can help them manage their storage, their Web-site, we can do more than just provide a pipe, that’s really where we add value, that’s where our 2,000 sales people are focused every day.”⁵³ tw telecom, now part of Level 3, also “has invested in network tools and product packaging to provide enterprises with flexible, simplified access to

⁵⁰ Roopashree Honnachari, Stratecast Frost & Sullivan, Communication Service Providers (CSPs) Getting Ready for a Walk in the Cloud at 2 (Jan. 27, 2012).

⁵¹ *IDC Market Analysis Perspective* at 4.

⁵² Cindy Whelan, *Current Analysis*, Windstream – Business Services US, at 3 (Aug. 21, 2014). “The addition of services such as [Unified Communications as a Service] UCaaS and more sophisticated cloud services helps the company move up market, and revenue from Windstream’s strategic Data and Internet service segment [which] has steadily increased sequentially and annually over the last several years.” *Id.*

⁵³ *Windstream’s (WIN) CEO Jeff Gardner Presents at 2014 Stanford C. Bernstein Thirtieth Annual Strategic Decisions Conference (Transcript)*, Seeking Alpha website (May 29, 2014), available at <http://seekingalpha.com/article/2244873-windstreams-win-ceo-jeff-gardner-presents-at-2014-sanford-c-bernstein-thirtieth-annual-strategic-decisions-conference-transcript>.

cloud-based services.”⁵⁴ EarthLink’s “rich product portfolio is heavy on cloud and IT services, as well as related data center hosting and infrastructure services.”⁵⁵ Cable companies are also extending into this growing sector.⁵⁶

Given these huge opportunities, competing providers are well positioned to win enterprise customers and earn revenues sufficient to justify their own fiber deployment.

C. The Additional Cost of DS1/DS3 Unbundling on a Fiber-Based IP Network, Which Is Not Reflected in Current TELRIC Rates, Would Outweigh Any Benefit of Such Unbundling.

Consistent with the Commission’s findings in the *Triennial Review Order*, the cost of requiring ILECs to provide unbundled DS1 and DS3 loops on a fiber-based IP network would vastly exceed any minimal benefit to customers or competition.⁵⁷

As discussed, DS1s and DS3s are increasingly becoming services of the past. Given the market’s irrevocable (and desirable) migration toward Ethernet offerings, CenturyLink has no

⁵⁴ Cindy Whelan, *Current Analysis*, tw telecom – Business Services US, at 4 (Aug. 15, 2014).

⁵⁵ Brian Washburn, *Current Analysis*, EarthLink – Business Services US at 2 (Dec. 12, 2014). “These services are complemented by a lengthy list of managed security capabilities, ranging from strength in traditional firewalls to backup/redundancy, threat management, endpoint security, identity management and professional security services. Hosted applications, professional services and help desk support, hosted VoIP/SIP trunking and networking services round out the company's portfolio.” *Id.* In 2014, “EarthLink’s managed network/cloud/IT services grew double digits – and together with wholesale now represent about 40% of total revenues[.]” *Id.*

⁵⁶ See, e.g., *Comcast Business Services Unveils Upware – a Cloud-Based Business-to-Business Software Marketplace for Small Business Customers*, Comcast Press Release (Feb. 20, 2013) (announcing the Upware™ marketplace, a suite of cloud-based business solutions that can be purchased through one integrated web portal), available at <http://business.comcast.com/resource-library/press-releases/details/2013/02/20/comcast-business-services-unveils-upware---a-cloud-based-business-to-business-software-marketplace-for-small-business-customers?NewsItemID=ad261b47-2963-62fe-b0b5-ff0000efc36d&IsPremium=False>.

⁵⁷ See *Triennial Review Order*, 18 FCC Rcd at 17153 ¶ 295.

reason to provide DSn functionality in its greenfield or brownfield fiber deployments, unless compelled to do so by regulation. Instead, CenturyLink plans to gradually transition its TDM networks and services to an all-Ethernet network to keep pace with consumer demand and offer an ever-more-robust range of services. Assuming the necessary equipment is even available,⁵⁸ CenturyLink would have to make costly changes to its systems, network and customer premises equipment—all for services that are likely to have little demand. Despite these extra expenses, the level of service performance is likely to be less than today, because the network’s IP-based equipment will not be able to “see” a DS1 or DS3 on an end-to-end basis as can the TDM-based equipment in CenturyLink’s legacy network.

It also appears that current TELRIC rates would understate the cost of providing DS1 services in this configuration, since the additional costs noted were not included in the cost models used to compute current TELRIC rates for DS1 and DS3 UNE loops. As a result, if the Commission were to require such unbundling, TELRIC rates for these loops should be increased to account for these additional costs, while also factoring in the very small demand to be expected for these network elements.

D. Refraining from DS1/DS3 Unbundling Would Promote Investment, Innovation and the IP Transition.

As at the time of the *Triennial Review Order*, Section 706 continues to require the Commission to encourage deployment of advanced telecommunications capability by using,

⁵⁸ Equipment manufacturers are beginning to discontinue or phase out TDM-based equipment, making it difficult (and soon impossible) to maintain the facilities and equipment used to provide traditional wireline voice telecommunications services. Even today, when obsolescent legacy equipment fails, CenturyLink technicians are forced to scavenge parts from decommissioned assets in the network or try to track them down through after-market sources.

among other things, “methods that remove barriers to infrastructure investment.”⁵⁹ Faced with the twin realities of customer demand for IP services and unrelenting competition, CenturyLink has been developing plans to gradually transition its TDM networks and services to an all-Ethernet network to keep pace with consumers’ demand and offer an ever-more-robust range of services. With more than 4,000 central offices, and estimated costs in the billions of dollars, the transition will likely stretch over a decade or longer. The Commission can help expedite this transition by refraining from imposing obligations to provide unbundled DS1 and DS3 loops on ILEC fiber networks.

Economists have recognized for some time that “unbundling regulations such as these can harm both consumer welfare and economic efficiency.”⁶⁰ For example, “both economic theory and empirical evidence indicate that unbundling regulations can lead to diminished investment incentives, lower broadband penetration, and slower deployment of fiber-to-the-premises (FTTP) networks.”

As noted, the unbundling mandate Windstream seeks would require CenturyLink and other ILECs to incorporate DS_n functionality they would not otherwise include in their fiber facilities, given DS_n services’ diminishing utility and relevance. Under such circumstances, the dampening effects of unbundling are undeniable. In contrast, refraining from unbundling will promote innovation by facilitating the migration to next-generation and IP-based services.

⁵⁹ *Triennial Review Order*, 18 FCC Rcd at 17150 ¶ 290 (citing Section 706 of the Telecommunications Act of 1996).

⁶⁰ Declaration of Dr. Kevin Caves ¶ 87 (Oct. 6, 2014), attached as Appendix B to Petition for Forbearance of the United States Telecom Association, Petition of US Telecom for Forbearance Pursuant to 47 U.S.C. § 160(c) from Obsolete ILEC Regulatory Obligations that Inhibit Deployment of Next-Generation Networks, WC Docket No. 14-192 (Oct. 6, 2014).

III. THE COMMISSION SHOULD FORBEAR, AS NECESSARY, TO PRESERVE INCENTIVES FOR INVESTMENT.

If the Commission concludes that its current rules require DS1 and DS3 loop unbundling on fiber-based IP networks, it should forbear from this wasteful and unnecessary requirement, given dramatic changes over the past decade in both technology and the services demanded by enterprise customers. For all the reasons described above, freeing ILEC fiber facilities from these outdated, asymmetric requirements will promote the Commission's goal of promoting the deployment and adoption of next-generation IP networks and services.

IV. CONCLUSION.

For the reasons noted herein, the Commission should deny the unbundling mandates sought by Windstream.

Respectfully submitted,

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