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April 21, 2016

VIA ECFS

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

Re: *Technology Transitions*, GN Docket No. 13-5; *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

Dear Ms. Dortch:

Pursuant to the *Protective Orders*[1] in WC Docket No. 05-25 and the Commission's April 6, 2016 Public Notice[2] addressing the treatment of data that is derived from Highly Confidential and Confidential data in the data collection, Windstream Services, LLC submitted Revised Public Versions of the following documents in WC Docket No. 05-25 and RM-10593 on April 20, 2016:

- Comments of Windstream Services, LLC (originally filed Jan. 27, 2016) (Attachment A);

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1 *See Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, Order and Data Collection Protective Order, DA 14-1424, 29 FCC Rcd. 11,657 (Wireline Comp. Bur. 2014); *Special Access Rates for Price Cap Local Exchange Carriers*, Modified Protective Order, DA 10-2075, 25 FCC Rcd. 15,168 (Wireline Comp. Bur. 2010); *Special Access Rates for Price Cap Local Exchange Carriers*, Second Protective Order, DA 10-2419, 25 FCC Rcd. 17,725 (Wireline Comp. Bur. 2010); *Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans*, Protective Order, DA 15-1837, 30 FCC Rcd. 13,680 (Wireline Comp. Bur. 2015).

2 *Public Statements Derived from Highly Confidential Data Filed in Response to the Business Data Services (Special Access) Data Collection*, Public Notice, DA 16-368, WC Docket No. 05-25, RM-10593 (rel. Apr. 6, 2016).

- Reply Comments of Windstream Services, LLC (originally filed Feb. 19, 2016) (Attachment B); *and*
- Windstream Services, LLC Ex Parte (originally filed Mar. 14, 2016) (Attachment C).

Because the subject matter also overlaps with issues raised in Dockets 13-5 and 15-1, the Revised Public Versions of these filings are also being filed in these dockets.

Please contact me if you have any questions or require any additional information.

Respectfully submitted,

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ATTACHMENT A

REDACTED - FOR PUBLIC INSPECTION

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
	)	
Special Access for Price Cap Local Exchange Carriers	)	WC Docket No. 05-25
	)	
	)	
AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services	)	RM-10593
	)	
	)	
Technology Transitions	)	GN Docket No. 13-5

COMMENTS OF WINDSTREAM SERVICES, LLC

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January 27, 2016

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COMMENTS OF WINDSTREAM SERVICES, LLC

I. INTRODUCTION AND SUMMARY

Windstream Services, LLC ("Windstream"), on behalf of its affiliates and subsidiaries, files these comments regarding the Commission's ongoing rulemaking with respect to the appropriate regulation of special access (i.e., dedicated services) rates, terms, and conditions. Windstream brings a unique and balanced perspective to competitive access, technology transition, and deregulation debates, standing exactly in the middle of this proceeding. Its company interests are nearly evenly weighted between incumbent and competitive local exchange carrier operations. Windstream is the fifth largest incumbent local exchange carrier ("ILEC") in the nation, and provides broadband, voice, and video services to residential consumers across 18 states, as well as wholesale access to competing providers. Windstream also provides advanced communications and technology solutions, including managed services and cloud computing, to hundreds of thousands of business service locations nationwide—as both an ILEC and a competitive local exchange carrier ("CLEC").

To enable its communications services, Windstream operates the nation's sixth largest fiber network (now spanning approximately 121,000 miles across its ILEC and CLEC networks). In the vastly larger area of the country where Windstream is not the ILEC, it generally is not economically feasible for Windstream to build last-mile facilities alongside most of the incumbents' existing infrastructure, except to serve the very largest customers.[1] To reach all the locations at which its customers need the solutions Windstream delivers, Windstream's

[1] As discussed below, this is consistent with the Commission's conclusions. *See* n.85, *infra*, and accompanying text.

competitive operations typically must rely on other incumbent's existing infrastructure in the last mile—a reality Congress anticipated and provided for when it enacted the Telecommunications Act of 1996. Without such access on just and reasonable terms, Windstream will not be able to continue to be a nationwide provider of complex communications solutions to large, medium, and small businesses; federal, state, and local governments and agencies; schools; and healthcare providers. This is the same situation faced by all CLECs.

The future of a robust array of choices for complex communications solutions, and the competition that delivers those choices, is at stake in this Commission proceeding. If the Commission takes no action, competition for the vast majority of business users with complex communications needs will wither to, at best, two options, and, in many places, just one. Choices for integrated, managed solutions will disappear as the large ILECs squeeze other providers from the market. In a few locations, business customers will still see competition from four or more providers with their own fiber to a building, but even then, large ILECs may be able to push prices up for those customers requiring service to multiple locations. A Commission with a mantra of "Competition, Competition, Competition" cannot and should not settle for a future of just monopoly or duopoly.

As much as the large ILECs would like to claim that there is rampant competition and numerous competitive alternatives for the high-quality, last-mile telecommunications connections that underlie complex communications solutions, the plain fact—as verified by the data submitted in response to the Commission's dedicated services data request ("Data Request")—is that this is not true. Within the areas served by price cap ILECs, these ILECs can reach nearly every building in their territory, providing the sole facilities to gain dedicated access to the vast majority (~~*****BEGIN HIGHLY CONFIDENTIAL*****~~ 77.3 ~~*****END HIGHLY**~~

~~**CONFIDENTIAL*****~~ percent). Of the remainder, all but a tiny fraction (~~*****BEGIN HIGHLY CONFIDENTIAL*****~~ 2.0 ~~*****END HIGHLY CONFIDENTIAL*****~~ percent) face at best a duopoly. And service choices are specific to each building. A business, governmental, or non-profit entity cannot attain a high-quality data connection from a competing provider simply because that provider might serve a building down the block or somewhere else in the census block: for there to be real choice, multiple competitive providers must already be in or be able economically and practically to deploy fiber into the individual customer's building. This viable business case does not exist in most instances, as confirmed by CostQuest's white paper on Ethernet deployment. With an overwhelming majority of business locations continuing to face either monopoly or duopoly ownership over connectivity, the markets to provide high-quality last-mile telecommunications connections can hardly be said to be robustly competitive.

Current competitive conditions confirm what one would expect in this situation. Acting as if prior forbearance orders gave them carte blanche over Ethernet pricing, ILECs can squeeze competing solutions providers by setting rates for wholesale last-mile access at levels that jeopardize competitors' ability to continue offering service to many business service customers, especially at small sites operated by small businesses and multilocation customers. When subject to meaningful wholesale competition, a typical supplier will charge its wholesale customers *less* per unit than its retail customers for identical or similar services, because it incurs fewer costs on a wholesale basis (e.g., costs for advertising, customer service, uncollectibles, and other expenses are avoided or greatly reduced) and is assured reduced churn and greater revenue certainty by wholesale customers' committing to larger volumes and longer terms. Yet just the opposite is occurring for Ethernet, for which some ILECs charge more to wholesale customers than at retail.

The Commission, at a minimum, needs to take immediate action to stop ILECs from using their control over network bottleneck facilities to choke off competition in the IP era. *First*, the Commission should make clear that ILECs, as owners of essential last-mile facilities, cannot refuse to offer their telecommunications services—whether dedicated or best-efforts—to wholesale customers, and ILECs must offer wholesale customers rates that reflect discounts from actual retail rates in response to cost savings from wholesale sales, including those achieved through reduced churn and revenue certainty assured by any term and higher volume commitments. This implements the basic requirements of the 1996 Act, from which the Commission has not granted forbearance with respect to any dedicated services.

Second, the Commission should require ILECs to permit wholesale purchasers to substitute Ethernet for TDM purchases when calculating compliance with minimum circuit or revenue commitments attached to discounts. When ILECs exclude Ethernet, or refuse to count Ethernet purchases fully, they put the wholesale purchaser in a position where it may have to continue to purchase TDM circuits from the ILEC simply to avoid contractual penalties—even though the purchaser's total last-mile expenditures with the ILEC may be increasing. This stymies the IP migration for the CLEC and consumers, and is another way to raise rivals' costs.

Third, the Commission should grant Windstream's pending petition for a declaratory ruling with respect to the continued availability of unbundled DS1 and DS3 capacity loops when provisioned over fiber or transmitting traffic in an IP format. ~~*****BEGIN HIGHLY CONFIDENTIAL*****~~ As confirmed by submissions to the Data Request, the failure to grant this petition will harm consumers by removing a limited constraint on ILEC special access prices, ~~*****END HIGHLY CONFIDENTIAL*****~~ and will give incumbents an unwarranted competitive advantage in using legacy infrastructure deployed in the monopoly era.

Fourth, the Commission, due to the lack of competition in dedicated services markets, should confirm and extend its interim condition on Section 214 discontinuance with respect to the pricing of IP-based services that supplant TDM services. Maintaining this condition is an important backstop to help ensure the large ILECs do not use the transition to IP services to thwart competition and is consistent with the Commission's stated intentions to preserve competition in the *Technology Transitions Order*. Such measures should encompass all instances where a provider or consumer seeks to transition to IP, not just when the ILEC decides it is in its self-interest to migrate.

Without these Commission actions, business, government, and nonprofit entities will lose meaningful competitive choice as the IP era advances. There are signs this is already occurring in the marketplace. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** These competitive conditions will only worsen if the Commission does not intervene.

Ideally, the Commission will address the concerns described above under an umbrella of comprehensive reforms addressing both retail and wholesale rates. ~~*****BEGIN HIGHLY CONFIDENTIAL*****~~ ILECs continue to charge rates above competitive levels, ~~*****END HIGHLY CONFIDENTIAL*****~~ and neither existing price cap regulation nor the predicted market forces have been sufficient to constrain pricing to competitive levels. This necessitates revisiting both the pricing flexibility triggers and grants of forbearance that have permitted exercise of market power.

Alternatively, if it declines to reverse forbearance grants, the Commission at least should reaffirm that its packet-switched service deregulation did not extend to any offerings that did not exist at the time of the ILECs' forbearance grants or were not specified in their petitions. In doing so, the Commission, in particular, should confirm that forbearance did not apply to any ILECs' special construction charges. Some ILECs now are using these charges as a backdoor means for increasing competitors' last-mile access costs—and further thwarting business service customers' ability to attain a meaningful choice in their selection of IP-based communications service providers.

II. THE LARGE ILECS POSSESS SUBSTANTIAL MARKET POWER OVER DEDICATED SERVICES WITHIN THEIR ILEC REGIONS.

Many businesses, government entities, and nonprofits have complex communications needs that require highly integrated and managed solutions. Whether using their own facilities or using ILEC facilities to reach the customer, CLECs have been the ILECs' principal competitors in offering complex communications solutions provided through dedicated services to these business, governmental, and non-profit customers. As Windstream has observed in prior filings, customers appreciate and have benefitted from the innovative options and individualized service that competition in the dedicated services markets has bred.[2] The charts below show that CLECs are the primary source of competition to the ILECs for non-residential customers, and particularly so for larger customers with 50 or more employees, who are more likely to have complex communications needs that require dedicated services.

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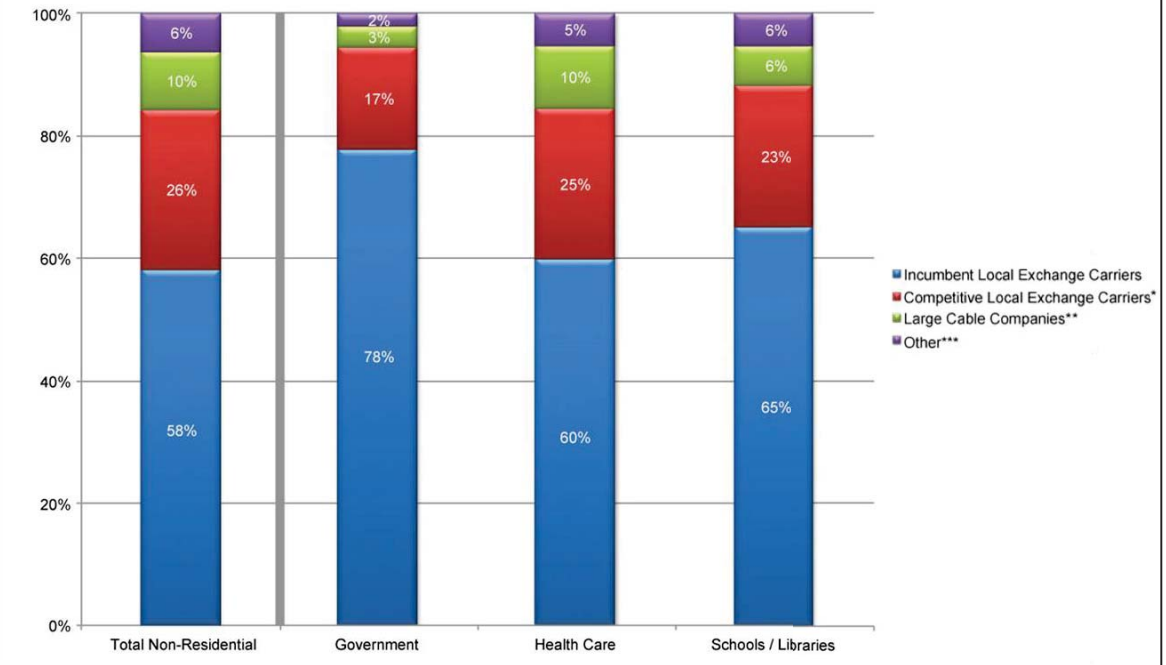
[2] *See* Comments of Windstream Corporation at 10-12, GN Docket No. 13-5, RM-11358, WC Docket Nos. 05-25 & 15-1, and RM-10593 (filed Feb. 5, 2015) ("Windstream Technology Transitions Comments").

Figure 1

Competitive Carriers Are Ensuring Businesses, Government, and Nonprofits Have Cost-Effective Choices

Estimated Shares of Non-Residential Customer Expenditures on Wireline Communications



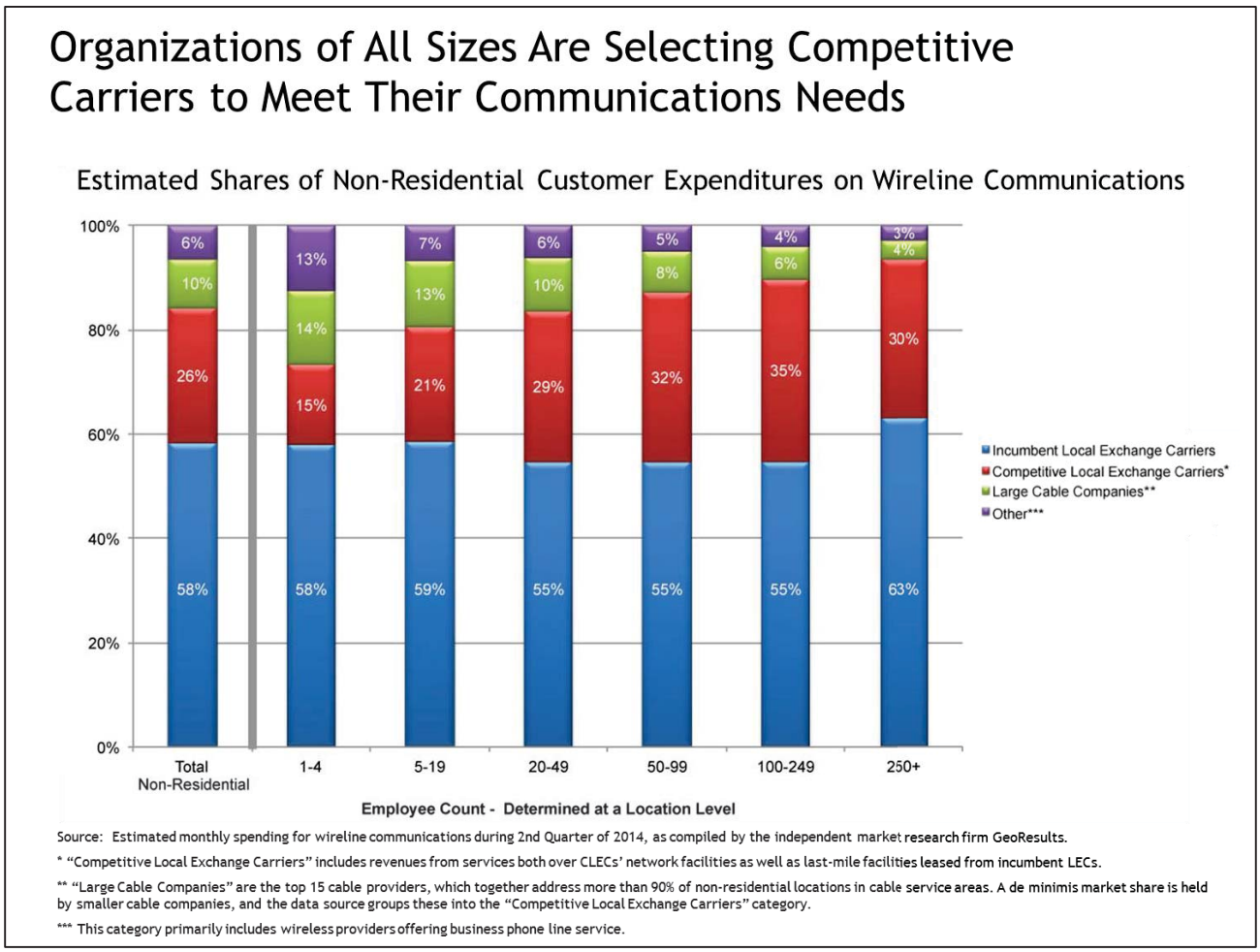
Source: Estimated monthly spending for wireline communications during 2nd Quarter of 2014, as compiled by the independent market research firm GeoResults.

* "Competitive Local Exchange Carriers" includes revenues from services both over CLECs' network facilities as well as last-mile facilities leased from incumbent LECs.

** "Large Cable Companies" are the top 15 cable providers, which together address more than 90% of non-residential locations in cable service areas. A de minimis market share is held by smaller cable companies, and the data source groups these into the "Competitive Local Exchange Carriers" category.

*** This category primarily includes wireless providers offering business phone line service.

Figure 2



Providing the complex communications solutions these customers need to manage and run their organizations requires high-quality connections to the customers' building. Last-mile connectivity and local transport to the building are necessary inputs for the services provided to customers by all complex solution providers, whether or not they own those last-mile facilities. The amount spent on these critical connections each year is more than $40 billion.[3] The future

[3] *Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans*, Order Initiating Investigation and Designating Issues for Investigation, DA

prices, terms, and conditions at which these individual last-mile connections can be obtained will determine how robust competition will be to provide complex business solutions. Without access to last-mile facilities on reasonable rates, terms, and conditions, competitive communications providers can effectively be foreclosed from providing business service solutions—which would deprive business, government, and nonprofit customers of the vibrant array of choices that they enjoy today.

Dedicated services constitute a unique set of product markets. As discussed further below, entities that need these high-quality services cannot use other types of services, such as best efforts broadband services. This differentiation is plain in the products offered by ILECs, CLECs, and cable companies; the level of customer support and integration with other managed services that use those connections; and the price premium these dedicated services command over best efforts services.

ILEC market power with respect to dedicated services stems from the fact that they possess the sole dedicated access facilities to the vast majority of business locations (~~***BEGIN HIGHLY CONFIDENTIAL***~~ 77.3 ~~***END HIGHLY CONFIDENTIAL***~~ percent). Of the remainder, all but a tiny fraction of buildings (~~***BEGIN HIGHLY CONFIDENTIAL***~~ 2.0 ~~***END HIGHLY CONFIDENTIAL***~~ percent) have at best two providers with these facilities.[4] ~~***BEGIN HIGHLY CONFIDENTIAL***~~ The large ILECs' market power implied by this lack of facilities-based competition is confirmed by the ILECs' own pricing data,

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15-1194, 30 FCC Rcd. 11,417, 11,418-19 ¶ 2 (Wireline Comp. Bur. 2015) ("*Tariff Investigation Designation Order*").

4 ~~***BEGIN HIGHLY CONFIDENTIAL***~~ The available in-building competitive alternatives do not change significantly if UNE-based providers are also included. In that case, ILECs are the sole provider in 58.4 percent of buildings, while another 36.6 percent have only two in-building providers. Only a small fraction—5.1 percent—have more than two in-building choices. ~~***END HIGHLY CONFIDENTIAL***~~

which show that retail prices decline as the number of competitors with their own last-mile fiber connections increase.~~***END HIGHLY CONFIDENTIAL***~~ As former FCC Chief Economist Dr. Jonathan Baker concludes, "the structure of these markets raises competitive concerns. In markets for dedicated services with a single provider—the majority of markets—the dedicated services monopolist would have the incentive and ability to charge a supracompetitive price."[5] Moreover, "[m]arkets with only two providers—most of the rest—are also unlikely to perform competitively."[6] And, as Dr. Baker points out, this is not just a concern for prices charged; "the exercise of market power may also harm competition on non-price dimensions, as through reduced product quality, reduced product variety, reduced service, or diminished innovation."[7]

A. Dedicated Services Are a Different Class of Service from Best Efforts Services and Are in a Separate Set of Markets

Dedicated services and best efforts services are two fundamentally different sets of offerings, which have different functionalities and serve different end user needs. These distinctions are apparent in the offerings of providers, including both ILECs and CLECs; in the pricing that providers are able to charge; and in the types of customers whose needs require the enhanced performance of dedicated services. These differences all confirm the marketplace importance of the Commission's delineation of dedicated services from best efforts services in its Data Request.

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5 Declaration of Dr. Jonathan B. Baker ¶ 47, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) ("Baker Declaration").

6 *Id.* ¶ 47.

7 *Id.* ¶ 51.

The Commission has defined dedicated services as services that "transport[] data between two or more designated points . . . at a rate of at least 1.5 Mbps in both directions (upstream/downstream) with prescribed performance requirements that include bandwidth-, latency-, or error-rate guarantees or other parameters."[8] Dedicated services include both circuit-based dedicated services like "time-division multiplexing-based, *DS1* or *DS3* service,"[9] and packet-based dedicated services like Ethernet and "permanent virtual circuits, virtual private lines and similar services."[10] The Commission's definition of dedicated services correctly captures its core feature—the offering of minimum performance requirements—while recognizing that dedicated services can be provided at lower bandwidths and may use different technologies and physical facilities, including through "a communication path that is currently being used to provide a non-dedicated service to an end user, but has the capability to provide a dedicated service."[11]

As defined by the Commission for the Data Request, dedicated services do not include any "'best effort' services, *e.g.*, mass market broadband services such as DSL and cable modem broadband access."[12] A "best efforts Internet access data" service that is "marketed to enterprise customers (including small, medium, and large businesses)" is a "Best Efforts Business Broadband Internet Access Service."[13] Best efforts services can be offered at lower or higher

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8 *Special Access for Price Cap Local Exchange Carriers*, Order on Reconsideration, DA 14-1327, 29 FCC Rcd. 10,899, 10,909, Appendix A, Mandatory Data Collection (Wireline Comp. Bur. 2014) ("*Order on Reconsideration*").

9 *Id.* at 10,908.

10 *Id.* at 10,910.

11 *Special Access for Price Cap Local Exchange Carriers*, FCC 12-153, 27 FCC Rcd. 16,318, 16,325 ¶ 15 n.38 (2012) ("*Data Collection Order*").

12 *Order on Reconsideration* at 10,909.

13 *Id.* at 10,908.

bandwidths and can use a broader set of facilities, but lack the functionality to meet the higher performance requirements that make dedicated services valuable to the customers who buy them. In light of different customer needs, Windstream recently began realigning its business units roughly along these lines, with its Enterprise business unit focusing on customers with more complex needs that generally require dedicated services, and with its Small and Medium Business ("SMB") unit focusing on business customers with less complex needs.

1. High Levels of Performance and Traffic Prioritization Are Key Differentiators of Dedicated Services As Compared to Best Efforts Services.

Customers who require dedicated services typically need very reliable connections and sophisticated integration of their communications and information technology networks—including not just transport capacity but also equipment, network security, and remote management of network infrastructure, among others.[14] Because these types of customers typically run a variety of applications using their communications services, they require meaningful availability and performance assurances—whether express or implied by the nature of the transmission service.[15] In Windstream's experience, dedicated services generally include a minimum level of network availability of at least 99.99 percent uptime, as well as assure performance along other parameters, including jitter (or, in the Ethernet context, inter-frame delay variation), packet latency (or one-way frame delay), and packet loss. [16]

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[14] *See* Declaration of Dan Deem, Douglas Derstine, Mike Kozlowski, Arthur Nichols, Joe Scattareggia, and Drew Smith, Attachment A to Comments of Windstream Services LLC ¶ 17, WC Docket No. 05-25, RM-10593, and GN Docket No. 13-5 ("Windstream Declaration").

[15] *See id.* ¶ 8.

[16] *See id.* ¶ 18.

Dedicated services customers also commonly will want the ability to prioritize traffic among different Quality of Service ("QoS") levels for different applications.[17] Dedicated services enable customers to utilize more degrees of traffic prioritization. For example, dedicated services that use multiprotocol label switching ("MPLS") can create a multi-node virtual private network among different customer locations that allows QoS prioritization within the virtual network.[18] Standard Windstream MPLS service supports a minimum of four and sometimes six QoS classes that have different minimum performance requirements that are critical to the applications being run.[19] For example, live video conferencing has a very low tolerance for latency to work properly, but email has a higher tolerance for latency, and QoS optimizes performance on a service-specific basis in response to these needs.[20]

The dedicated services offerings of both incumbents and competitors recognize customers' needs for higher performance levels and traffic prioritization as a significant characteristic of their services. Verizon's Ethernet Dedicated E-Line + service provides a service availability standard of up to 99.999 percent, 99.995 percent service level for packet delivery, frame jitter under 5 milliseconds (ms), and traffic prioritization into 4 different QoS tiers.[21] These performance levels are featured prominently in Verizon's marketing of the service, which emphasizes the "highest priority traffic routing without our Ethernet portfolio . . . high

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17 *See id.* ¶ 8.

18 *See id.* ¶ 19.

19 *See id.*

20 *See id.* ¶ 33.

21 *See* Verizon, Verizon Ethernet Dedicated E-Line + at 5-6 (2014), http://www.verizonenterprise.com/external/service_guide/reg/cp_edeline_plus_ethernet_dedicated_eline.pdf. *See also* Current Analysis, "Verizon U.S. WAN Services," (May 8, 2015). Verizon's offered service level for latency is determined based on the customer's specific route. *See id.* at 13.

availability and output . . , [and] predictable latency provided upfront."[22] AT&T offers packet-based dedicated services that can include a 99.995 percent packet delivery rate, latency of under 5 ms, jitter of under 3 ms, and traffic prioritization into 6 different QoS tiers.[23] Likewise, AT&T's marketing of the service touts that "important traffic is prioritized and . . . [s]peed, performance and security are backed by service level agreements."[24]

Competitive providers' dedicated services offering include similar enhanced performance levels and traffic prioritization capability. Level 3, for example, offers an MPLS IP virtual private network service that includes a packet delivery rate of 99.99 percent, jitter of under 3 ms, latency of 50 ms, and 6 different QoS tiers.[25] XO Communications' MPLS service also offers an availability objective of 100 percent, latency of under 48 ms, and jitter of under 1 ms.[26]

Analysts further confirm the importance of performance assurances and QoS for dedicated services customers. When Sanford Bernstein stratified businesses into four different groupings—Residential+, Low Complexity, Medium Complexity, and High Complexity—the significant differentiator of Medium and High Complexity from Residential+ and Low

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22 *See* Verizon, Simple, Flexible Connection for Today's Business: Ethernet Services from Verizon at 6 (2015), http://www.verizonenterprise.com/resources/brochures/br_simple-flexible-connections-for-todays-business_en_xg.pdf

23 *See* AT&T, AT&T Switched Ethernet Guidebook, Part 5—Special Access Services, Common, Section 4—AT&T Switched Ethernet Service at §§ 4.1(H)(2)(c), 4.2(A)(7) (effective July 3, 2012), http://cpr.att.com/pdf/is/0005-0004.pdf.

24 *See* AT&T, AT&T Switched Ethernet Service at 2 (May 15, 2015), http://www.business.att.com/content/productbrochures/att-switched-ethernet-product-brief.pdf.

25 *See* Level 3 Communications, Level 3 Converged Business Network Service Schedule at 3 (Mar. 11, 2011), http://www.level3.com/en/legal/interexchange-service-schedules/~/media/Assets/legal/legal_convergedBusinessNetworkServicesServiceSchedule_bmg.ashx.

26 *See* XO, XO Wide Area Network Services, Service Level Agreement and Associated Credits at 1 (rev. June 25, 2012), http://www.xo.com/WorkArea/DownloadAsset.aspx?id=10737418812.

Complexity was "specialized telecom needs," including "interlocation connectivity with guaranteed QoS" and "service requirements requiring [Service Level Agreements]."[27] And when cataloguing ILECs' advantages over cable, one of the key advantages Bernstein noted was the "ability to offer managed services and capacity with guaranteed quality via [Service Level Agreements]."[28] Similarly, when Current Analysis reviews enterprise service providers, among the key factors it reviews are QoS and service level capabilities.[29]

In addition to enhanced performance requirements and traffic prioritization, dedicated services customers often consider other factors like mean time-to-repair outages and the range of network security services offered by the provider. ILECs and CLECs both offer mean time-to-respond or time-to-repair standards as part of their dedicated services. XO, for example, includes a four-hour mean time-to-repair standard for its MPLS service,[30] and Verizon commits to a mean time-to-repair of as brief as two hours.[31]

Network security offerings are similarly robust. AT&T's Ethernet brochure notes that AT&T's network "has security built into every layer" and "24 hours a day, 7 days a week

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27 Sanford C. Bernstein & Co., LLC, U.S. Telecom: A Primer in the $70B Enterprise Telecom Market (Cable's Opportunity = Telcos' Loss?) at 4 (July 16, 2015) ("Bernstein Primer").

28 *Id*. at 6.

29 *See* Current Analysis, "Verizon U.S. WAN Services," at 10-11 (May 8, 2015) (listing number of QoS tiers for each service in review of network); Current Analysis, "CenturyLink U.S. WAN Services," at 8 (Aug. 18, 2015) (noting that one service offered has eight QoS tiers supported, while another service does not have "provider-imposed" QoS); Current Analysis, "Level 3 U.S. WAN Services," at 10 (July 22, 2015) (indicating number of QoS tiers available under two different services).

30 *See* XO, XO Wide Area Network Services, Service Level Agreement and Associated Credits at 1, http://www.xo.com/WorkArea/DownloadAsset.aspx?id=10737418812.

31 *See* Verizon, Verizon Ethernet Dedicated E-Line + at 6 (2014), http://www.verizonenterprise.com/external/service_guide/reg/cp_edeline_plus_ethernet_dedicated_eline.pdf.

monitoring of your network."[32] Verizon's managed security services for its dedicated services offerings include customer premises-based security, as well as a "network-hosted service that collects, classifies, analyzes and reports on security-related events; and takes appropriate counter-measures."[33] Level 3 also offers both network-based and customer premises-based security solutions that provide "24 x 7 monitoring and management via dedicated Security Operations Center[,] [s]ecurity analytics tools with real-time reporting" and the collection and analysis of security events through a "Security Incident and Event Monitoring[] platform."[34]

Finally, the complexity of the customers' needs often necessitates dedicated services that are individually tailored to each customer's specific requirements and personalized customer service support. Sanford Bernstein noted this when comparing ILECs and cable, and found among ILECs' advantages were "enterprise sales teams . . . [and] network-design capabilities."[35] Dedicated services providers typically have to work with systems integrators or IT consulting companies, or have in-house professional services capabilities to provide the required customization of the providers' dedicated services.[36] And instead of directing a dedicated services customer who has a service issue to a centralized call center, the provider will also

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[32] AT&T, Connect with Ethernet at 5 (Oct. 28, 2014), http://www.business.att.com/content/productbrochures/connect-with-ethernet.pdf. AT&T's circuit-based dedicated services also emphasize security as a feature. *See* AT&T, AT&T Private Line Service at 1 (July 3, 2008), http://www.business.att.com/content/productbrochures/PVL2.pdf (offering "secure point-to-point connectivity" and "24x7 proactive monitoring of your network").

[33] Current Analysis, "Verizon U.S. WAN Services," (May 8, 2015), at 9.

[34] Level 3, Managed Security Services, Level 3 Secure Access and Mobility Services at 4 (2015), http://www.level3.com/~/media/files/brochures/en_secur_br_secure_connectivity_solutions.pdf.

[35] Bernstein Primer at 6.

[36] *See, e.g.*, *Professional Services*, VERIZON, http://www.verizonenterprise.com/solutions/professional-services/ (last visited Jan. 20, 2016).

assign specific account or project managers to the customer.[37] As Windstream CEO Tony Thomas stated when he was discussing the division of Windstream's CLEC business into Enterprise and SMB, the Enterprise business customers "typically have more complex solutions" that "require[] a higher touch business model."[38] To meet dedicated services customer expectations, Windstream has invested in its sales support technical staff who can engage substantively with prospective customers on their business needs and determine which targeted offerings can provide the best solutions.[39]

Unlike dedicated services, best efforts services do not meet the same enhanced performance standard or the capability for customers to prioritize types of traffic, and the providers offering best effort services—including ILECs and cable companies—make these differences clear. Verizon's FiOS business broadband service, for example, does not offer any specific network or performance guarantees, though it does cite prior performance test results.[40] AT&T's U-Verse best efforts service aimed at business customers provides only 99.9 percent network availability and packet delivery guarantees,[41] as compared to 99.99 percent or even 99.999 percent uptime and performance assurances that AT&T offers for its dedicated services. CenturyLink's business broadband service likewise offers only a 99.9 percent network

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37 *See* Current Analysis, "CenturyLink U.S. WAN Services," (Aug. 18, 2015), at 9 (noting that the company "offers professional services including network consulting and support, project management, and supplemental staffing").

38 Tony Thomas, President and CEO, Windstream Holdings, Inc. at Goldman Sachs Communacopia Conference at 3 (Sept. 16, 2015), *in* Thomson Reuters StreetEvents.

39 *See* Windstream Declaration ¶ 21.

40 *See FiOS and DSL Performance*, VERIZON, http://www.verizon.com/about/terms-conditions/fios-and-dsl-performance (last visited Jan. 20, 2016).

41 *See AT&T Broadband, Service Level Agreement*, AT&T, http://www.att.com/gen/general?pid=6622 (last visited Jan. 20, 2016).

availability level.[42] Moreover, none of these best efforts services appears to provide the ability for customers to specify varied QoS priority tiers for traffic.

Cable providers' best effort services, like those offered by ILECs, do not offer the performance levels or have personalized support like dedicated services. For example, Charter's Spectrum Business broadband service offers 99.9 percent "network reliability,"[43] and does not provide guarantees for latency or jitter. Cable best efforts services also often lack the range of managed services, security features, and resources for individualized service that customers expect to find from a dedicated services provider. According to a November 2015 Current Analysis report, Comcast's business services can deliver Ethernet connectivity, but "lack[] the infrastructure, personnel and expertise to support complex enterprise requirements."[44] Likewise, in evaluating cable versus CLECs and ILECs, Sanford Bernstein noted, "cable companies have emerged as a credible competitive threat, as their introduction of telephony and increasing broadband speeds have allowed them to serve the Residential+ and parts of the Low- and Medium-complexity segments using only-slightly-adapted consumer products. To date however, cable has been largely unable to serve the more complex segments . . . ."[45]

Most cable last-mile connections are based on coaxial or hybrid fiber-coaxial facilities ("HFC") that were designed for best efforts services, which commonly are heavily

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42 *See* CenturyLink High Speed Internet at 1 (2011), http://www.centurylink.com/small-business/customer-support/user-guides/HSI-BE-8-8-11.pdf.

43 *See Internet*, SPECTRUM BUSINESS, https://business.spectrum.com/content/product-family-internet?tab-id=2 (last visited Jan. 20, 2016).

44 Current Analysis, "Comcast Business—Business Services US," (Nov. 13, 2015), at 4.

45 Bernstein Primer at 6. Bernstein also noted that "the most cable-addressable parts of the Low- and Medium-complexity segments are single-location firms close to residential areas." *Id*. at 6 n.9.

oversubscribed.[46] Coaxial and HFC connections are distinct from the reliable dedicated connections that dedicated services customers usually require. HFC and coaxial connections are shared in part and typically do not support services with higher levels of network performance-based QoS, on a customer-by-customer basis, and thus are not suitable for supporting MPLS. Accordingly, Windstream's experience is that cable companies generally provide only best efforts services over their HFC connections, and these connections also are not acceptable last-mile wholesale inputs for services like Windstream's dedicated VPN service, which supports a minimum of four classes of services for per-packet prioritization. [47]

To the extent that cable companies are beginning to offer dedicated services, Windstream's experience is these cable offerings are available only in the more limited set of buildings where cable providers have their own last-mile fiber access.[48] And even at these

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[46] *See Data Collection Order* at 16,335-36 ¶ 444 ("[T]he record indicates that entities that provide best efforts business broadband Internet access services generally deliver those services throughout their footprint over the same network facilities they use to deliver mass market broadband Internet access . . . .").

[47] *See* Windstream Declaration ¶ 29, 31.

[48] According to industry analysts and reports, Charter, Cox, Time Warner Cable, and Cablevision combined have approximately 147,300 fiber lit buildings, which is equivalent to approximately 4 percent of the 3.5 million buildings in the United States that house more than one business. *See* Current Analysis, "Spectrum Business – Business Services US," at 2 (Nov. 23, 2015) (estimating that Charter has 12,000 lit buildings); Current Analysis, "Time Warner Cable Business Class Keeps Up Retail Customer Momentum, Tools Up for Wholesale," at 3 (Dec.. 1, 2015) (estimating that TWCBC has 100,000 lit buildings); Sean Buckley, *U.S. Fiber Penetration Reaches 39.3 Percent of Buildings, Says VSG*, FIERCETELECOM (Apr. 4, 2014) (estimating that Cox Business has 28,000 lit buildings), http://www.fiercetelecom.com/story/us-fiber-penetration-reaches-393-percent-buildings-says-vsg/2014-04-04; Cablevision Sys. Corp. and CSC Holdings, Annual Report (Form 10-K) at 6 (Feb. 25, 2015), http://www.sec.gov/Archives/edgar/data/784681/000162828015001010/cvc-12312014x10k.htm (stating that Cablevision's Lightpath business has 7,300 lit buildings). *See also* Letter from John T. Nakahata, Counsel, Windstream, to Marlene H. Dortch, Secretary, FCC, at 6, GN Docket Nos. 13-5 & 12-353, WC Docket Nos. 15-1 & 05-25, RM-10593 (filed July 20, 2015) (citing GeoResults Q3/2014 GeoAnalytic Report data estimating there are 20 million business buildings, including 3.5 million

locations, cable companies' relatively limited range of managed and individually tailored services has made it more difficult for these companies to expand into the dedicated services markets. As Current Analysis observed, for example, "TWCBC lacks a hosted IP telephony offer, giving competitors an edge,"[49] and Comcast "lacks the infrastructure, personnel and expertise to support complex enterprise requirements."[50]

The overall distinction between dedicated services and best efforts services, and the differentiation in associated customer needs and provider capabilities, can be observed from data reflecting the proportion of CLEC versus cable share of telecommunications spend by non-residential uses when segregated by size of the customer location. While cable serves nearly as many very small, single-location customers as do CLECs, these data show that cable usually is not an effective market competitor for both multi-location customer sites and larger single-location customers who are more likely to require dedicated services instead of best efforts services. As illustrated in Figure 4, below, cable represents only 9 percent of the total retail monthly spend for single-location businesses with 50 to 99 employees, and only about 5 percent of the total retail monthly spend for businesses with more than 250 employees. For multilocation businesses, cable's share drops rapidly as customer locations exceed 5 employees, while CLEC share grows; with more than 250 employees, cable's share of the monthly spend on communications drops to only 3 percent, while CLECs remain the ILECs' primary competitor.[51]

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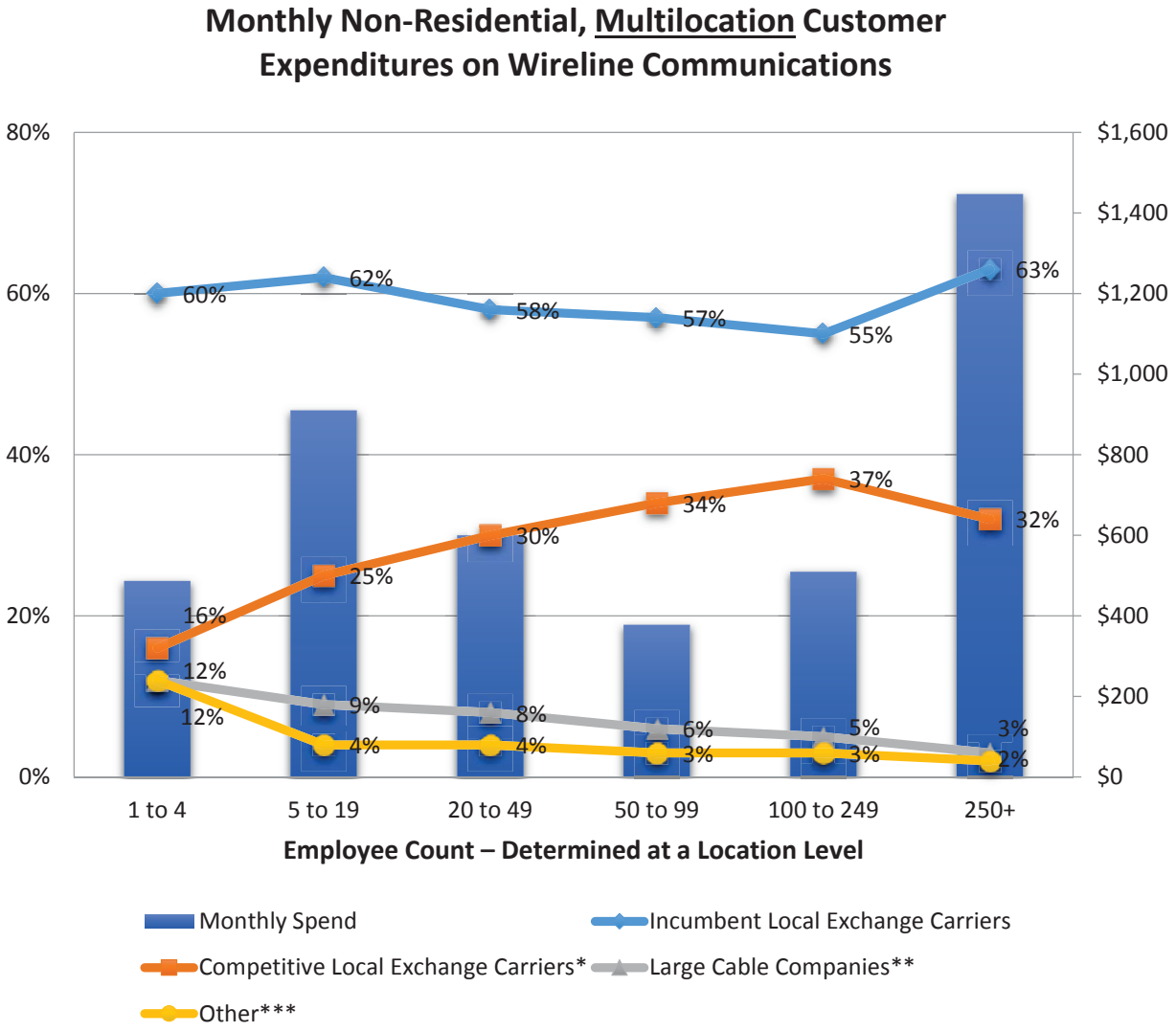
buildings that house more than one business, in the United States) ("Windstream July 20, 2015 Ex Parte").

[49] Current Analysis, "Time Warner Cable Business Class – Business Services US," at 2 (Oct. 16, 2015).

[50] Current Analysis, "Comcast Business—Business Services US," (Nov. 13, 2015), at 4.

[51] *See* Petition for Declaratory Ruling of Windstream Corporation at 9-11, GN Docket No. 13-5 (filed Dec. 29, 2014).

Figure 3



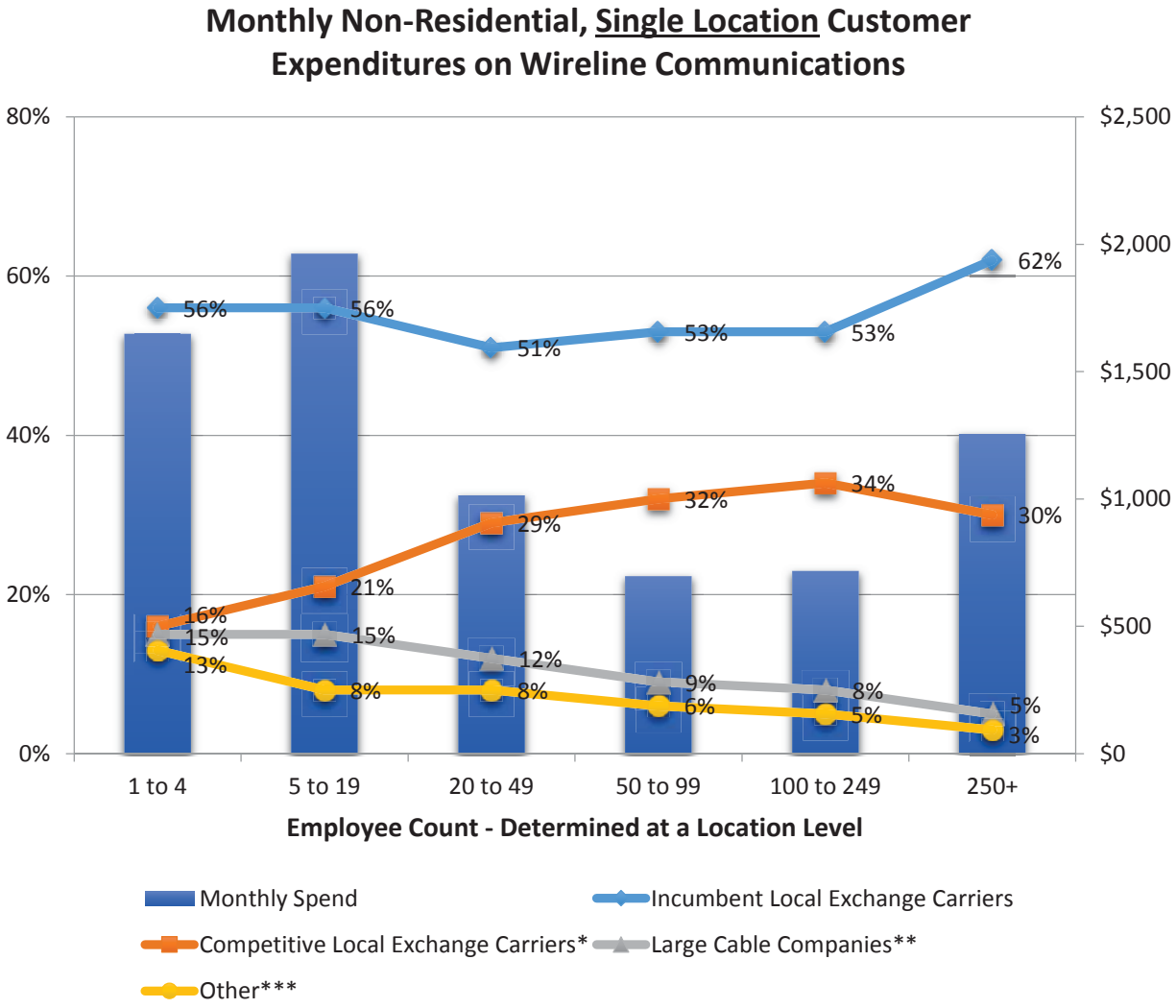
Source: Estimated for wireline communications during 3rd Quarter of 2014, as compiled by the independent market research firm GeoResults.

* "Competitive Local Exchange Carriers" includes revenues from services both over CLECs' network facilities as well as last-mile facilities leased from ILECs.

** "Large Cable Companies" are the top 15 cable providers, which together address more than 90 percent of non-residential locations in cable service areas. A de minimis market share is held by smaller cable companies, and the data source groups these into the "Competitive Local Exchange Carriers" category.

*** This category primarily includes wireless providers offering business phone line service.

Figure 4



Source: Estimated for wireline communications during 3rd Quarter of 2014, as compiled by the independent market research firm GeoResults.

* "Competitive Local Exchange Carriers" includes revenues from services both over CLECs' network facilities as well as last-mile facilities leased from ILECs.

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*** This category primarily includes wireless providers offering business phone line service.

The bottom line of all these data is consistent: dedicated services and best efforts services are in separate product markets serving separate needs. Contrary to the large ILECs'

assertions,[52] cable providers have focused on providing best effort services to those business customers that do not need the additional functionalities of, and are not willing to pay the premium for, dedicated services. Current Analysis reported at the end of last year that "[d]espite mid-market initiatives, Comcast's high bandwidth/low price broadband value proposition for smaller businesses dominates revenue growth."[53] Similarly, Charter's "Spectrum Business' largest segment by far is small businesses. . . . [and] Spectrum Business does not have internal sales and support resources to go to market with sophisticated, tailored enterprise services."[54] Even Time Warner Cable, which has the most fiber lit buildings of the cable providers for whom such data is publicly available, is still competing in the markets for best efforts services, as "its revenue remains dominated by small businesses seeking basic, competitively priced bundles of broadband, voice and video."[55] Industry analysts project that cable's growth will be in the "[l]ow- and [m]edium-complexity segments using only-slightly-adapted consumer products."[56] Thus, CLECs will continue to represent the main source of competition to ILECs in dedicated services markets, even if cable providers make further inroads in best efforts services markets.

2. Dedicated Services Command a Significant Price Premium Over Best Efforts Services.

The pricing of best efforts services also indicates that these services are categorically different from dedicated services. Customers are willing to pay a substantial premium per Mbps

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[52] *See* Letter from Maggie McCready, Vice President, Regulatory and Legal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, at 1, WC Docket No. 05-25 and RM-10593 (filed Jan. 14, 2016).

[53] Current Analysis, "Comcast Business – Business Services US," at 2 (Nov. 13, 2015).

[54] Current Analysis, "Spectrum Business – Business Services US," at 2 (Nov. 23, 2015).

[55] Current Analysis, "Time Warner Cable Business Class – Business Services US," at 2 (Oct. 16, 2015).

[56] Bernstein Primer at 6.

for dedicated services to achieve superior performance over best efforts services offered by the same providers, including when the best efforts services deliver much higher advertised bandwidths. For example, Verizon charges a monthly rate of between $170 and $264, depending on the rate zone, for a DS1 (1.5 Mbps) private line service on a two-year term.[57] In contrast, Verizon's FiOS best efforts services, which are marketed to businesses, offer a symmetrical 150 Mbps service for $185 per month, and a symmetrical 300 Mbps service for $255 per month.[58] Similarly, EarthLink charges $229 per month for a T1 service (1.5 Mbps) on a three-year term,[59] but only $150 per month for a best efforts service that provides more than five times the advertised bandwidth.[60] Likewise, cable companies' best efforts services are priced at per Mbps levels that are far lower than dedicated services offered by any type of provider. For example, Comcast charges less on a monthly basis for a 50 Mbps/10 Mbps asymmetrical best efforts service ($109.95) than AT&T does for a symmetrical DS1 (1.5 Mbps) dedicated service ($126).[61]

These pricing differences are representative of overall market prices for best efforts services and dedicated services. *****BEGIN CONFIDENTIAL***** [redacted]

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57 *See* Verizon Tel. Cos. Tariff FCC No.1 § 7.5.16(A) (May 15, 2012), http://www.verizon.com/tariffs/PDFViewer.aspx?doc=180318.

58 *See Fios Internet: Packages*, VERIZON, http://www.verizon.com/smallbusiness/products/business-FiOS-Internet/packages/ (last visited Jan. 20, 2016).

59 *See Business T1*, EARTHLINK, http://www.earthlink.biz/highspeed/t1.jsp (last visited Jan. 20, 2016).

60 *See Business DSL Plus*, EARTHLINK, http://www.earthlink.biz/highspeed/dslplus.jsp (last visited Jan. 20, 2016).

61 *Compare Comcast Business Internet*, COMCAST BUSINESS, http://business2.comcast.com/internet/business-internet (last visited Jan. 20, 2016), *with* AT&T Tariff FCC No. 1 § 7.5.9(I) (Jan. 16, 2014 & Sept. 14, 2012), http://cpr.att.com/pdf/fcc-pb/1007.pdf.

[redacted] *****END CONFIDENTIAL*****[62]

*****BEGIN CONFIDENTIAL***** [redacted]

[redacted] *****END CONFIDENTIAL*****[63] Industry analysts have noted this "significant premium" for dedicated services over best efforts services offered by cable companies, and observed that "cable has been largely unable to serve the more complex segments, where telcos' geographically extensive networks, enterprise sales teams, network-design capabilities, and ability to offer managed services and capacity with guaranteed quality via SLAs . . . represent high barriers to cable entry."[64]

3. Customers That Require Dedicated Services Include Businesses, Governments, and Nonprofits of Varying Sizes and With Specialized Needs.

Customers of dedicated services represent a diverse range of entities, all of whom require the enhanced performance and other features that are not available in best efforts services, and are thus willing to pay the premium for dedicated services. Dedicated services customers vary based on business size, number of locations, and monthly expenditures on communications services. The number of locations, number of employees, and the amount of spend can act to some degree as proxies for the complexity of the communications services the customers are likely to require to some degree, but none of these factors—nor all of them combined—is a

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62 *See* Windstream Declaration ¶ 24.

63 *See id.*

64 Bernstein Primer at 6.

perfect predictor of customer needs. While customers of dedicated services tend to have multiple locations, some single-location customers also need this level of service. Similarly, while these customers tend to have larger overall monthly communications expenses, some customers with smaller spend levels have specialized needs that also place them into this category. Dedicated services customers especially tend to include financial institutions, health care providers, professional services, government, and educational institutions—all of which typically need high uptime and performance levels.[65]

Windstream's experience affirms that there is a broad range of customers comprising the dedicated services market. The lower end segment of the market is most concentrated with businesses with between typically 25 and 100 employees, up to ten locations, and monthly communications spends ranging from $1,000 to $5,000. Windstream examples include a credit union, law firms with one or two locations, and a healthcare entity operating in three sites in the same state. However, there are some even smaller businesses that require dedicated services connections, such as a Windstream customer that offers database services to other companies.[66]

The middle segment of dedicated services customers includes entities that typically have between 100 and 500 employees, and monthly communications spends of between $5,000 and $25,000. A Windstream customer that has both a main center and multiple, much smaller satellite locations to reach is an example of an entity at this spending level. So too is a military post requiring communication services for more than 10 sites. For this middle tier, four verticals

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65 *See* Windstream Declaration at ¶¶ 13-16.

66 *See id.* ¶ 14.

that require complex solutions collectively represent the vast majority of the market: government/education, financial, retail services, and healthcare.[67]

The upper-middle segment of the dedicated services market has businesses and nonprofits with more than 500 employees and between $25,000 and $100,000 (and potentially higher) monthly communications spends. These Windstream customers encompass a public school district serving tens of thousands of students and a government entity operating thousands of facilities nationwide. Other such Windstream customers include regional bank chains and a regional hospital network.[68]

4. Increasing Demand for Packet-Based Dedicated Services Highlights the Distinguishing Features of Dedicated Services as Compared With Best Efforts Services.

Packet-based dedicated services, particularly Ethernet, continue to grow in importance for business users seeking complex communications solutions. According to a recent Vertical Systems Group report, the base of U.S. retail Ethernet installations grew 23 percent in 2014 and based on demand projections, more than half a million new ports will be added to the U.S. Ethernet base in the next five years.[69] Frost & Sullivan, similarly, projects that the business carrier Ethernet services market revenue will grow substantially from $4.7 billion in 2014 to $12.0 billion in 2020.[70] And in the wireline wholesale local transport market, ***** BEGIN CONFIDENTIAL ***** [redacted]

[67] *See id.* ¶ 15.

[68] *See id.* ¶ 16.

[69] Vertical Systems Group, *Mid-Year 2015 U.S. Ethernet Leaderboard*.

[70] Frost & Sullivan, *Business Carrier Ethernet Services Market Update, 2015* at 1 (Sept. 2015).

[redacted] *** END CONFIDENTIAL ***[71]

The demand for Ethernet and other forms of packet-based dedicated services is increasing in response to dedicated services customers' desire to benefit from the improved scalability and greater functionality of packet-switched technology over circuit-switched technologies like TDM, and is not shrinking despite the growth of best efforts services. As observed by Frost & Sullivan, carrier Ethernet offers enterprise customers the benefits of "scalability, reliability, and cost efficient bandwidth," with "granular bandwidth options and service multiplexing capabilities offered by switched Ethernet services continu[ing] to drive market spending."[72] The independent market research firm further explained: "As enterprises adopt Ethernet for various applications, ranging from simple email browsing to real-time video applications—and increasingly for access to cloud-based applications—they are choosing their service provider based on CoS and end-to-end SLAs."[73] This assessment underscores the enduring import of distinctions between dedicated and best efforts services.

Importantly, as the Commission noted, many dedicated services customers who have lower bandwidth needs also are seeking the benefits of packet-switched technology that initially was available only to much larger users who needed (and could pay for) much higher speeds.[74]

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71 ATLANTIC-ACM, *Local Wholesale Transport Analysis, Second Quarter 2015* at 5 (Oct. 2015).

72 Frost & Sullivan, *Business Carrier Ethernet Services Market Update, 2015* at 7, 18 (Sept. 2015).

73 *Id*. at 18.

74 *Technology Transitions*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, FCC 15-97, 30 FCC Rcd. 9372, 9445-46 ¶ 134 (2015) (citing COMPTEL's explanation that "Ethernet over Copper (EoC) services built using DS1s and DS3s as wholesale inputs allow small and medium-sized businesses to realize many of the

Indeed, the packet forbearance petitions filed by the large ILECs nearly ten years ago focused exclusively on "large business customers."[75] Likewise, the Commission's orders granting limited forbearance also focused on packet-switched dedicated services provided to "large and mid-sized enterprises,"[76] and the "substantial telecommunications expenditures for large enterprise customers" that generate "large revenues" for providers.[77] But now customers with lower bandwidth needs additionally may benefit from retail packet-switched dedicated services—which commonly are provided by competitive carriers that use leased DS0, DS1, and DS3 connections as inputs for these services.[78] Whether provisioned over UNEs, TDM, special

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same efficiencies of Ethernet technology that previously only were available to larger enterprise customers") ("*Technology Transitions Order*").

75 Petition of BellSouth Corporation for Forbearance Under Section 47 U.S.C. § 160(c) From Title II and *Computer Inquiry* Rules With Respect to Its Broadband Services at 7, WC Docket No. 06-125 (filed July 20, 2006) ("BellSouth Forbearance Petition"). *See also* Petition of the Verizon Telephone Companies for Forbearance under 47 U.S.C. § 160(c) from Title II and *Computer Inquiry* Rules with Respect to Their Broadband Services at 7, WC Docket No. 04-440 (filed Dec. 20, 2004), *as amended by* Letter from Edward Shakin, Vice President and Associate General Counsel, Verizon, to Marlene H. Dortch, Secretary, FCC, at 3, WC Docket No. 04-440 (Feb. 7, 2006) ("Verizon Forbearance Ex Parte") (asserting that multiple providers compete to provide data services to "large enterprise customers") ("Verizon Packet Forbearance Petition").

76 *Petition of AT&T, Inc. for Forbearance Under 47 U.S.C. § 160(c) from Title II and* Computer Inquiry *Rules with Respect to its Broadband Services; Petition of BellSouth Corporation for Forbearance 47 U.S.C. § 160(c) from Title II and* Computer Inquiry *Rules with Respect to its Broadband Services*, Memorandum Opinion and Order, FCC 07-180, 22 FCC Rcd. 18,705, 18,718 ¶ 21 (2007) ("*AT&T Packet Forbearance Order*").

77 *Id.* at 18,720 ¶ 24.

78 This helps explain why DS1 and DS3 circuits still represent a large share of the wireline wholesale local transport revenue: *****BEGIN CONFIDENTIAL***** [redacted] *****END CONFIDENTIAL***** ATLANTIC-ACM, *Local Wholesale Transport Analysis, Second Quarter 2015* at 5 (Oct. 2015) (accounting for both TDM special access and unbundled DS1 and DS3 capacity loops in DS1 and DS3 revenues).

access, or Ethernet, such services deliver reliability and higher level performance in response to the distinct needs of dedicated services customers.[79]

B. There Is No Basis for Assuming Non-ILEC Fiber Connections, Which Are Key for Competitors Providing Dedicated Services over Their Own Last-Mile Facilities, Will Address Most Business Locations.

Given the enhanced performance requirements of dedicated services, providers seeking to offer those services—whether as circuit-based or as packet-based dedicated services—must obtain access to a customer's premises over facilities that are suitable for dedicated services, as well as local transport connecting the customer's location to the nearest end office. There are three basic options for competitive providers to obtain the necessary last-mile access. These providers can: (1) build or buy their own fiber facilities to the location; (2) lease, where they are available, unbundled network elements into the location; or (3) purchase a circuit-switched dedicated service or packet-switched dedicated service to that location.[80] This section describes the extent to which each of these options supports competition.

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[79] As elaborated upon below, Windstream would rather meet all such customers' preferences with packet-switched wholesale inputs, but faces significant barriers to doing so at viable prices because of the current differentials between market retail prices and large ILECs' wholesale input prices (as well as between the ILECs' circuit-switched and packet-switched inputs at certain speed tiers). *See* Windstream Technology Transitions Comments at 22-23.

[80] Although a fixed wireless connection may be used in place of a wired connection in some instances, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** Fixed wireless faces various limitations for customers, including depending on the technology and frequencies used, congestion, interference, rain fade, and need for line-of-sight, such that it cannot be assumed to work at every location within an area covered by specific spectrum. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** In addition, the fixed wireless provider must also obtain building access, which erects a significant barrier because access must be negotiated with each building owner. *See* Windstream Declaration ¶¶ 34-36.

1. The Record Confirms That ILEC-Owned Facilities Remain the Only Source of Access Needed to Provide Dedicated Services for an Overwhelming Majority of Non-Residential Buildings.

As the Commission has observed, "incumbent LECs remain the sole facilities-based provider of circuit-based dedicated services to a majority of business locations that demand or are likely to demand business data services nationwide."[81] Dr. Baker's analysis of the data reached a consistent finding, with the ILEC the only last-mile connection provider to the vast majority of buildings and one of only two last-mile connection providers to nearly all of the rest.

The Commission's and Dr. Baker's findings on ILEC dominance in the last-mile marketplace are confirmed by Windstream's experience as a CLEC purchaser. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[82]

ILECs' dedicated services can be circuit-based or packet-based, and can be carried over legacy copper or fiber facilities. Windstream prefers using packet-based dedicated services provided over last-mile fiber whenever possible due to the network efficiencies of packet-based technology and the higher bandwidth capacity of fiber as compared to copper.[83] But because of limits to other wholesale providers' dedicated services availability and large ILECs' pricing for packet-based dedicated services, circuit-based dedicated services currently remain crucial inputs

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81 *Tariff Investigation Designation Order* at 11,419 ¶ 4.

82 *See* Windstream Declaration ¶ 80.

83 *See id.* ¶ 70.

for CLECs' lower-bandwidth services to business retail customers who want data services at locations where the CLECs do not own last-mile facilities and UNEs cannot be used.[84]

The significant limits on non-ILEC providers' last-mile ownership are validated by the Commission's data on the special access marketplace, as well as Windstream's individual experience as a wholesale purchaser. The Commission recognized more than ten years ago in the *Triennial Review Remand Order* that the underlying economics of network construction limit where a competitive provider can overbuild its own facilities to "areas that offer the greatest demand for high-capacity offerings (*i.e.*, that maximize potential revenues) and that are close to their current fiber rings (*i.e.*, that minimize the costs of deployment)."[85] *****BEGIN CONFIDENTIAL***** [redacted] *****END CONFIDENTIAL*** ***BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[86]

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84 *See id.*

85 *Unbundled Access to Network Elements and Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, FCC 04-290, 20 FCC Rcd. 2533, 2618-19 ¶ 154 (2005) ("*Triennial Remand Review Order*" or "*TRRO*").

86 *See* Windstream Declaration ¶¶ 73-77.

These findings of ILEC control over dedicated access to the vast majority of business locations are confirmed by public data. A recent Sanford Bernstein report estimates that, in aggregate, "competitive carriers, as well as cable, have built facilities to a small portion (less than 5 percent) of towers and business locations."[87] A 2015 Current Analysis report shows that Level 3 has approximately 30,000 lit buildings, and XO has approximately 4,000,[88] out of a total of approximately 20 million business buildings in the United States, of which more than 3.5 million house more than one business.[89] Windstream also has its own last-mile fiber connections to certain buildings, which are "on net" or "lit." *****BEGIN HIGHLY CONFIDENTIAL*****

[redacted]

*****END HIGHLY CONFIDENTIAL***** As discussed below, the economics of overbuilding facilities remain daunting for competitive providers—who are nearly always no better than the second entrant to a building—and thus continued availability of unbundled network elements and dedicated services is essential for competition to remain unlocked. Moreover, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted]

[redacted] *****END HIGHLY CONFIDENTIAL*****[90]

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87 *See* Sanford C. Bernstein & Co., LLC, U.S. Telecom: Friday's Announcement of an FCC Investigation into Data Pricing (A Three-Page Summary and Assessment) at 2 (Oct. 19, 2015) ("Bernstein Summary and Assessment").

88 *See* Windstream July 20, 2015 Ex Parte at 6 (citing Brian Washburn, U.S. WAN Services Update: A Look at Access Fiber, SDN, NFV, APIs and Automation, CURRENT ANALYSIS, at 2-3 (Jan. 22, 2015)).

89 *See id.* Single-business buildings in this estimate include buildings that are used for home businesses.

90 *See supra* n.48.

While product composition of this market is shifting dramatically, market analysts report that the ILECs' total share of market revenues remains largely the same. *****BEGIN CONFIDENTIAL***** [redacted] *****END CONFIDENTIAL*****[91] *****BEGIN CONFIDENTIAL***** [redacted] *****END CONFIDENTIAL*****[92] Likewise, Frost & Sullivan reported that the three largest ILECs alone accounted for more than two-thirds of total wholesale carrier *Ethernet* services market revenues in 2014—and this market share has been *growing*.[93] The ILEC's market share increase represents revenues on top of additional revenues that will flow from the substantial growth forecasted for the total wholesale carrier Ethernet services market.[94]

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91 ATLANTIC-ACM, *Local Wholesale Transport Analysis, Second Quarter 2015* at 6 (Oct. 2015) (comparing the wholesale local transport revenue market shares of ILECs, including their CLEC subsidiaries, to the shares of other providers). This market includes last-mile connectivity for wireless cell towers, commercial building connections, and data center and aggregation point connections. Since commercial buildings usually are in brownfield areas where the ILEC has a pronounced first-mover advantage, it follows that the ILEC share of last-mile access to commercial buildings alone is even higher.

92 *Id*.

93 Frost & Sullivan, *Wholesale Carrier Ethernet Services Market Update, 2015* at 27 (Aug. 2015) (reporting the three largest ILECs constituted 67.3 percent of market revenues in 2014, up from 62.9 percent in 2013).

94 *See id*. at 21 (predicting the wholesale Ethernet services market will experience a 26.3 percent combined annual growth rate between 2014 and 2020).

2. New Construction of Last-Mile Connections Will Not Foreseeably Eliminate ILEC Dominance to the Vast Majority Of Locations.

New construction of non-ILEC fiber connections will not dissipate the market power that ILECs have as a result of their ubiquitous last-mile connection. As the Commission has recognized in this proceeding, "[c]ompetition in the provision of special access appears to occur at a very granular level—perhaps as low as the building/tower."[95] The barriers to building and extending fiber networks are high, including when a carrier may have an extensive fiber network in a metro area or within the geographic bounds of a single zip code. Even then, the carrier frequently lacks a sufficient prospect of generating the revenues necessary to sustain last-mile deployment, and it also may not be able to obtain necessary building access rights and permission to build new conduit in a timely manner to satisfy the prospective customer.[96]

Third-party investor analysts recognize that last-mile access is a key barrier to competitive entry in the dedicated services markets and that in all likelihood will continue to be so. According to a Sanford Bernstein report, "[f]or most business locations, the incumbent telco will remain the only wholesaler of physical connectivity, as the return on capex for alternative providers (including cable) does not justify the investment to deploy their own facilities."[97] Vertical Systems Group, likewise, found the "most cited top competitive advantage" by service providers, responding to its Year-End 2014 Ethernet/IP VPN/Fiber and LEADERBOARD Survey, "is fiber footprint reach, and the primary growth challenge is footprint expansion."[98]

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95 *Data Collection Order* at 16,327 ¶ 22.

96 Windstream Declaration ¶ 51.

97 Bernstein Summary and Assessment at 2.

98 Vertical Systems Group, *Year End 2014 Service Provider Survey Ethernet/IP VPN/Fiber and LEADERBOARD*. *See also* Vertical Systems Group, *Service Provider Competitive Landscape*, 2015 (reporting that two key differentiation factors for the major retail Ethernet provider segments are scope of the target market and geographic coverage).

These findings are consistent with Windstream's experience as a CLEC. Windstream has invested billions to operate a fiber network now covering approximately 121,000 miles,[99] but even so, the vast majority of business locations are a significant distance away from Windstream's fiber such that the cost of self-provisioning the last-mile connectivity as a CLEC is prohibitively expensive. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** in contrast to Windstream's hundreds of thousands of business customers.[100] *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[101] As a result, even the largest competitive providers have not been able to build their own last-mile facilities to more than a small fraction of all the business buildings to which the ILECs have connectivity by virtue of their incumbency.[102]

In deciding whether to extend its network to a given building, Windstream considers the projected internal rate of return for the project, which is influenced by a number of factors such as the anticipated level of demand for services and the expected margins on those services,

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[99] *See* Windstream Declaration ¶ 44.

[100] *See* Windstream Declaration ¶ 52.

[101] *See* *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

[102] *See supra* n.4 and accompanying text.

whether there are existing last-mile access costs for that particular building, whether running fiber to that building brings another group of buildings closer to the company's fiber, and what the potential revenue opportunities from those buildings look like.[103] The minimum level of demand required can increase significantly as the distance between the building and the competitive provider's fiber network increases.[104] *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[105] Other barriers, such as the need to negotiate access to a building or local construction requirements, also increase the costs to providers that may consider deploying their own facilities to the building. These barriers not only increase competitive providers' costs, but also delay the ability of these providers to connect customers, who may then select the ILEC as a result, and thus extends the timeframe before the competitive provider could generate enough revenue to achieve an adequate rate of return.[106] These combined conditions mean that Windstream, although it

[103] *See* Windstream Declaration ¶ 50.

[104] The Commission has previously adopted an approach used by the Department of Justice on the level of demand—as measured by bandwidth—necessary at a given location to make it economically feasible for a competitive carrier to overbuild to that location from various distances. The specific "demand/distance screen" used by Commission was 2 DS3 connections, or about 90 Mbps of capacity for distances up to 0.1 miles; 1 OC-12 connection, or about 622 Mbps capacity for distances up to 0.25 miles; and more than an OC-48 connection, or approximately 2.5 Gbps in capacity for distances up to 1 mile. *See AT&T Inc. and BellSouth Corp. Application for Transfer of Control*, Memorandum Opinion and Order, FCC 06-189, 22 FCC Rcd. 5662, 5682 ¶ 42 & n.114 (2007).

[105] *See* Windstream Declaration ¶ 51.

[106] *See id.*

continues to invest in expanding its own fiber network, still must rely heavily on leasing last-mile access.

A recent CostQuest study underscores the economic obstacles faced by a competitive carrier as a second entrant in a market, as compared to the ILEC that built its networks initially as the monopolist, and even today can count on its facilities usually being used either to support its own retail operations, or by a wholesale purchaser to reach the same building.[107] CostQuest prepared a white paper that models the monthly cost for a hypothetical efficient CLEC to build last-mile fiber facilities and associated IP electronics, and compared that cost against the revenue required to support a build-out decision and against the cost of leasing equivalent facilities from ILECs.[108] Using updated assumptions based on the cost study submitted by AT&T and relied upon by the Commission in the *Triennial Review Order*,[109] CostQuest's analysis demonstrates the significant challenges that still face competitive carriers seeking to overbuild last-mile facilities:[110]

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[107] *See* Letter from Jennie B. Chandra, Vice President, Public Policy and Strategy, Windstream Corporation, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 13-5 & 12-353, RM-10593, WC Docket Nos. 05-25 & 15-1 (filed June 8, 2015) ("Windstream June 8 Ex Parte"); *id.* at Attachment A ("CostQuest White Paper #1").

[108] Windstream June 8 Ex Parte at 2.

[109] Letter from Joan Marsh, Director, Federal Government Affairs, AT&T, to Marlene Dortch, Secretary, FCC, at Attachment B, CC Docket Nos. 01-338, 96-98 & 98-147 (filed Nov. 25, 2002). That study was cited by the Commission in its *Triennial Review Order*. *See, e.g.*, *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, FCC 03-36, 18 FCC Rcd. 16,978, 17,156 ¶ 298, n.859 (2003) ("*Triennial Review Order*") (citing the AT&T study when finding "for DS1 loops and some DS3 loops, overbuilding to enterprise customers that require services over these facilities generally does not present sufficient opportunity for competitors to recover their costs and, therefore, may not be economically feasible").

[110] CostQuest White Paper #1 at 1. As a "greenfield" cost analysis, CostQuest's model does not recognize that an ILEC may already have critical inputs available that it can leverage for fiber deployments at less or no cost, such as existing conduit or building entrances. In

- First, the white paper demonstrates that widespread CLEC last-mile build-outs to business customers remain economically infeasible today. Using the same parameters for size of the fiber ring and potential market as used in the AT&T study, and updated data on services, retail rates, and costs, the CostQuest model shows that CLEC self-deployment of fiber-served Ethernet last-mile facilities to serve a single customer in each building would not be economically viable unless the customer at each building purchases more than 1 Gbps of capacity.[111]

- Second, CostQuest's analysis describes and quantifies how market share and incumbency lower the per-location cost of fiber build-out, and further expose the flaw in the ILECs' argument that CLECs are on equal competitive footing when it comes to Ethernet, where they assert "[t]here are no 'incumbents.'"[112] To support a build-out, CLECs must recover the costs for new infrastructure, including buried conduit, rights of way and pole access, and building entry portals and equipment rooms.[113] Moreover, CLECs do not possess a massive customer base like ILECs, whose first-to-market historical advantage as the designated monopolist allows the ILEC to spread network costs over a larger number of locations within the same ring distance. For the same building density, a decrease from the national aggregate ILEC market share of 58 percent to the national aggregate CLEC market share of 26 percent results in a 32 percent increase in the per-building cost.[114]

- Third, CostQuest's compared Telogical-surveyed average retail Ethernet prices to average AT&T and CenturyLink wholesale Ethernet Guidebook rates, which found that surveyed retail Ethernet prices were substantially lower than the AT&T and CenturyLink wholesale Guidebook rates.[115]

CostQuest's analysis supports continued and renewed Commission effort to ensure that there is meaningful competition in the enterprise services market. Because CLECs face a much higher threshold than ILECs for fiber loop construction to be economically feasible, competition for

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contrast, Windstream's experience is that CLECs usually must construct or lease new conduit and establish building entrances when extending loop facilities to a new location. This infrastructure disparity constitutes a further inherent advantage for the ILEC, the first mover and historical monopoly.

111 *See id.* at 8.

112 Comments of CenturyLink at 12, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket No. 05-25, RM-11358, and RM-10593 (filed Feb. 5, 2015).

113 *See Triennial Review Order* at 17,039-40 ¶ 89 (identifying first-mover advantages of incumbents that lower deployment costs).

114 *See* CostQuest White Paper #1 at 13-15.

115 *See id.* at 12. *See also* Windstream Declaration ¶ 91.

most business service customer locations likely will continue to depend on CLECs' ability to lease ILEC last-mile inputs so that they can connect their own fiber backbone facilities to individual customer locations.

This record evidence shows that ILECs still continue to benefit significantly from their historical monopoly status at many buildings, which confers advantages in deploying the expensive, last-mile portion of networks that are simply not available to competitive providers. The fundamental economics of network deployment have not changed since the Commission concluded in 2005 that CLECs were impaired without access to ILECs' DS1 and DS3 capacity loops in most situations.[116] ILECs continue to possess facilities into every building that they have historically served, and have the overwhelming majority of customers over which to amortize the costs of deploying fiber. The vast majority of business locations still present no economically feasible case for competitive overbuilding—with fiber or copper—in the last mile.

This should not surprise anyone. In examining whether CLECs were impaired without access to unbundled DS1 and DS3 capacity loops as part of the 2005 *Triennial Review Remand Order*,[117] the Commission reviewed "the costs associated with [deploying such loops] and the potential revenues that can be recouped from a particular customer location."[118] Competitive

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[116] *See Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Phoenix, Arizona Metropolitan Statistical Area*, Memorandum Opinion and Order, FCC 10-113, 25 FCC Rcd. 8622, 8666-67 ¶ 84 (2010) ("[T]he Commission, in the *Triennial Review Order*, found that competitive carriers face extensive economic barriers to the construction of last-mile facilities. . . . We see nothing in the record to indicate that, in the years since the passage of the 1996 Act, these barriers have been lowered for competitive LECs that do not already have an extensive local network used to provide other services today.") ("*Qwest Phoenix Forbearance Order*"), *aff'd*, *Qwest Corp. v. FCC*, No. 10-9543 (10th Cir. Aug. 6, 2012). *See also TRRO* at 2616 ¶ 150 (2005).

[117] *See TRRO* at 2614 ¶ 146.

[118] *Id.* at 2616 ¶ 150.

carriers, the Commission found, "face large fixed and sunk costs in deploying competitive fiber, as well as substantial operational barriers in constructing their own facilities."[119] According to the Commission, "[t]he most significant portion of the costs incurred in building a fiber loop results from deploying the physical fiber infrastructure into underground conduit to a particular location, rather than from lighting the fiber-optic cable."[120] The Commission also observed that "the cost of construction does not vary significantly by loop capacity (*i.e.*, the per-mile cost of building a DS1 fiber loop does not differ significantly from the cost to construct a DS3 or high-capacity fiber loop)."[121] This means an ILEC's far larger customer base enables far lower per-location deployment costs for the ILEC as compared to its competitors.

Based on these facts, the Commission concluded that CLECs could not reasonably be expected to overbuild ILEC DS1 and DS3 capacity loops, except in select instances in some of the densest wire centers.[122] It also recognized that permitting large price increases for wholesale inputs would effectively reduce competition, which has a direct impact on the adequacy and quality of service provided to end users.[123] The Commission has since reaffirmed these findings. In 2010 the Commission, for example, noted in the *Qwest Phoenix Forbearance Order* that the "passage of time has [not] lowered these barriers," nor lessened the danger of "downstream"

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119 *Id*.

120 *Id.*

121 *Id.*

122 *See id.* at 2625 ¶ 166 (noting that "competitive deployment of stand-alone DS1-capacity loops is rarely if ever economic"). Moreover, the Commission recognized that overbuilding may be impossible for many locations in these wire centers, but was comforted by the availability of tariffed alternatives as a gap-filler for competitive LECs. *Id.* at 2623-24 ¶ 163.

123 *See, e.g.*, *id.* at 2570 ¶ 63 (noting that without the availability of UNEs and tariffed special access in combination, "incumbent carriers could strategically manipulate the price of their direct competitors' wholesale inputs to prevent competition in the downstream retail market").

customer impacts that can arise where a single party holds substantial market power in the upstream wholesale market.[124]

These fundamental difficulties in self-deploying last-mile facilities as a competitive provider are likely why even the large ILECs focus their last-mile fiber deployments in their ILEC service areas. As noted in their releases, AT&T's much touted Business Fiber deployments continue to focus on AT&T's ILEC footprint, while Verizon's FiOS fiber network investments similarly have targeted locations inside its ILEC footprint.[125] CenturyLink likewise has focused its fiber deployment within its ILEC footprint,[126] and has acknowledged that it must "rely on other wholesale providers" for last-mile access outside its ILEC footprint.[127]

3. Unbundled Network Elements Are an Important but Limited Source of Last-Mile Access.

UNEs, which Windstream uses to provide both circuit-switched dedicated services and packet-switched dedicated services to the end user, are an important last-mile option at locations where a competitive provider does not own facilities. But CLECs' use of UNEs faces significant

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[124] *Qwest Phoenix Forbearance Order* at 8670 ¶ 90, 8639 ¶ 34.

[125] *See, e.g.*, AT&T, *AT&T Fiber Reaches 1 Million New Business Customer Locations* (Jan. 20, 2016), http://about.att.com/story/fiber_reaches_1_million_business_customer_locations.html ("AT&T offers business customers high-speed Internet products on its fiber network in every major metro in the company's *21-state footprint*." (emphasis added)); *One Powerful Decade: FiOS Turns 10!*, VERIZON (Sept. 5, 2014), http://www.verizon.com/about/news/one-powerful-decade-fios-turns-10 (noting that FiOS deployments are limited to Verizon's ILEC footprint of "12 states and the District of Columbia"). *See also* Opposition of AT&T Services, Inc. at 23, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015) (noting Project Velocity IP is focused on "its 21 state [ILEC] footprint") ("AT&T Opposition").

[126] *See* Cindy Whelan, Current Analysis, "CenturyLink Launches Fiber Infrastructure, Portfolio to Get a Jump on Broadband Competitors," at 2, (Aug. 11, 2014), http://www.centurylink.com/business/asset/white-paper/current-analysis-fiber-infrastructure-report-wp141271.pdf (last visited Jan. 20, 2016) ("CenturyLink's deployment is limited to areas where the company has an incumbent local carrier footprint.").

[127] Comments of CenturyLink at 11, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015).

limitations legally and practically, and UNEs cannot be used to provide service across the full range of bandwidth sought by dedicated services end users.

First, the Commission's rules preclude use of UNEs in multiple instances. CLECs have no right of access to UNEs to serve mobile wireless or interexchange carriers.[128] The Commission has eliminated the requirement to provide access to unbundled DS1 and DS3 capacity loops entirely in wire centers that have four fiber-based collocators and 60,000 business lines for DS1 capacity loops or 38,000 business lines for DS3 capacity loops.[129] The rules also bar a provider from obtaining more than ten unbundled DS1 capacity loops or one DS3 capacity loop to a particular business location, which, as discussed below, effectively limits the bandwidth that can be provided.[130] Furthermore, the rules permit end-to-end copper loops to atrophy when an ILEC introduces fiber in the feeder, and ultimately these parallel copper facilities can be retired such that they are no longer available for Ethernet over Copper ("EoC").[131]

Second, UNEs typically cannot be used to provision services above 50 Mbps, due to limits on the availability loops as well as technical and economic feasibility.[132] Windstream's EoC service offerings use an all-copper, end-to-end DS0 UNE loop to provision capacity over

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[128] *See* 47 C.F.R. § 51.309(b). In addition, if the CLEC is not collocated in the ILEC's end office, then there are restrictions on combining a UNE loop with UNE transport. *See id.* § 51.318.

[129] *See id.* §§ 51.319(d)(4)(i), (5)(i). *See also TRRO* at 2563 ¶ 52.

[130] *See* 47 C.F.R. §§ 51.319(a)(4)(ii), (5)(ii).

[131] *See id.* § 51.319(a)(3)(iii).

[132] A Windstream all-copper DS0 UNE loop usually has a maximum capacity of 40 to 45 Mbps if 8 all-copper DS0 loops are bonded and provisioned for Ethernet over Copper, while unbundled DS1 and DS3 capacity loops can provide up to 12 Mbps and 90 Mbps of bandwidth, respectively, if multiple loops are bonded. *See* Windstream Declaration ¶¶ 61, 65. There are additional restrictions on the availability of UNE loops, such as the lack of sufficient loops in a suitable condition and the necessity of developing ways to interface with an ILEC's record systems in order to access the loops. *See id.* ¶ 62.

short distances at levels most commonly at 20 Mbps or below—but sometimes for up to 45 Mbps of capacity.[133] In theory, even higher speeds are possible, but as a practical matter they generally are not feasible for Windstream due to limitations, such as loop distance and number of available copper pairs.[134] Windstream typically leases four or eight dry DS0 UNE loops, each capable of between 2 to 5.5 Mbps per pair (depending on loop distance) out to approximately 10,000 feet; a loop is "dry" when the ILEC does not terminate the copper pair into its own electronics.[135] After 10,000 feet, requisite EoC bandwidth cannot be achieved.[136] And even at distances below 10,000 feet, ILECs frequently state that UNE loops are not reusable due to the ILEC's use of the loops or "chronic" performance issues, so while four or eight loops at less than 10,000 feet may run into a building, EoC may not be an option.[137] Sensitivity of pair distance and quality makes it more challenging to offer EoC than a repeater-capable DS1/DS3 delivery method. This forces Windstream to develop contingency plans to deliver bandwidth when access to suitable DS0 copper pairs is unavailable—introducing additional cost and service delivery time.[138]

There are significant constraints on usage of DS1 and DS3 capacity loops as well. Theoretically, DS1 capacity loops can be used to provide TDM special access and Ethernet services at up to 12 Mbps (1.5 Mbps per circuit, with technical limit on bonding at 8 circuits).[139] A DS3 capacity loop also provides 45 Mbps for either TDM or Ethernet service, and may be

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[133] *Id.* ¶ 61.

[134] *Id.*

[135] *Id.*

[136] *Id.*

[137] *Id.* ¶ 62. *See also id.* ¶ 63.

[138] *Id.* ¶ 61.

[139] *Id.* ¶ 65

bonded with a single (non-UNE) DS3 special access service connection per end user location.[140] In practice, the economic and technological feasibility of DS1 and DS3 bonding, however, declines as needs for multiples of DS1 and DS3 circuits increase.[141] Moreover, fiber DS1 and DS3 capacity loops, to the extent ILECs continue to offer these inputs, can never practically be leveraged for greater Ethernet capacity than what is possible for TDM-based service, because in Windstream's experience, ILECs typically just deliver use of this "facility" in the form of limited IP bandwidth (even though an underlying fiber connection could support significantly more capacity).[142] Copper DS1 and DS3 capacity loops likewise are not usable for higher-bandwidth EoC because of the electronics installed on the line to ensure sufficient quality of service over the full reach of the connection (e.g., load coils).[143]

Third, CLECs, at least in some cases, face contractual barriers to obtaining UNEs. Due to the ILECs' market power with respect to building access, competitive providers in some cases must agree to forgo the use of UNEs as a condition for obtaining discounts on dedicated services inputs.[144] *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[145]

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[140] *Id.*

[141] *Id*.

[142] *Id*.

[143] *Id*.

[144] *See id.* ¶ 58.

[145] *See id*.

Fourth, to utilize an unbundled loop, Windstream's CLEC operations typically use a collocation in an ILEC's wire center.[146] In some cases, collocation is in the specific ILEC end office in which the unbundled loop terminates.[147] In other cases, Windstream can have the ILEC combine an unbundled loop with unbundled transport to reach another of the ILEC's central offices in which Windstream has collocated.[148] Wherever it is collocated, Windstream typically must apply for and obtain physical collocation space in the ILEC's serving wire center to include floor space, power, and DS0 carrier facility assignment.[149] With collocation, Windstream typically must arrange for backhaul connectivity from the collocation to Windstream's data point of presence. In contrast, collocation is not required for special access.[150]

Finally, the continued availability of unbundled DS1 and DS3 capacity loops provisioned over fiber and/or transmitting traffic in an IP format remains in doubt until the Commission acts on Windstream's declaratory ruling petition—which as discussed in Section VI, below, the Commission should immediately address.[151] The Commission should not allow this large ILEC-manufactured uncertainty to linger.

All of this means that the fact that UNEs exist cannot be relied upon to draw the conclusion that some or all special access services should be deregulated, or, in the case of ILEC packet forbearance that was previously granted, that the limited forbearance granted should be maintained. ILECs retain market power, despite the availability of UNEs.

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[146] *Id.* ¶ 59.

[147] *Id.*

[148] *Id.*

[149] *Id.*

[150] *Id.*

[151] *See infra*, Section VI.

C. The Dedicated Services Data Collected by the Commission Confirms ILEC Market Power.

Dr. Baker's report confirms that the ILECs have and continue to exercise market power with respect to dedicated services. He examines both the structure of dedicated services markets as well as the Data Request. ~~***BEGIN HIGHLY CONFIDENTIAL***~~ As he concludes, a statistical analysis of the data collected by the Commission "shows that ILEC retail prices tend to decline as the number of rivals selling dedicated services increases."~~***END HIGHLY CONFIDENTIAL***~~[152] ~~***BEGIN HIGHLY CONFIDENTIAL***~~ Not surprisingly, he finds that the greatest effect on ILEC prices occurs when four or more competitors with last-mile facilities serve a given building—a far greater effect than when there is only one or two other providers with their own last-mile connections all the way to the building.~~***END HIGHLY CONFIDENTIAL***~~[153] As Dr. Baker observes, "Markets with two- providers . . . are also unlikely to perform competitively. As a general matter, the economics literature recognizes that markets with more than one significant firm do not necessarily perform competitively, and that firms will likely exercise market power in markets with few market participants."[154] In his regressions, ~~***BEGIN HIGHLY CONFIDENTIAL***~~ the addition of one other in-building competitor in addition to the ILEC reduces ILEC prices by 0.10 percent, while the fourth competitor reduces prices by 12.2 percent over having just three in-building competitors.~~***END HIGHLY CONFIDENTIAL***~~[155] ~~***BEGIN HIGHLY CONFIDENTIAL***~~ Taken together, Dr. Baker finds that on average ILEC charges in

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[152] Baker Declaration ¶ 8.

[153] *Id.* ¶ 63.

[154] *Id.* ¶ 48.

[155] *Id.* ¶ 57 & Table 2.

buildings with 3 other in-building providers are 12.35 percent lower than when the ILEC has no in-building competition.~~***END HIGHLY CONFIDENTIAL***~~[156] ~~***BEGIN HIGHLY CONFIDENTIAL***~~ Moreover, Dr. Baker concludes that the actual decline in ILEC prices associated with additional rivals is likely greater than the reported results would suggest, because the regression results are likely biased away from identifying an inverse relationship between rivals and price.~~***END HIGHLY CONFIDENTIAL***~~[157]

~~***BEGIN HIGHLY CONFIDENTIAL***~~Dr. Baker's examination of the impact of nearby competitors on ILEC prices is consistent with the substantial barriers to entry and expansion when a CLEC is not already in a building, even if it is located nearby. Specifically, although increasing numbers of nearby competitors have some inverse relationship to ILEC prices, in-building competitors have a more significant effect. As Dr. Baker reports, "The greater cumulative effect of in building providers . . . suggests that in-building providers provide a greater competitive constraint, on average, than nearby providers." ~~***END HIGHLY CONFIDENTIAL***~~[158] This makes sense when there are factors—including size of potential customers' revenues and build-out costs—that limit competitive entry even when a competitor has nearby lit buildings and/or fiber rings.

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[156] *Id.*

[157] *Id.* ¶ 68. *See also id*. ¶¶ 69-94.

[158] *Id.* ¶ 63.

III. LARGE ILECS ARE SUCCESSFULLY FORCING COMPETING COMMUNICATIONS SOLUTIONS PROVIDERS TO SUFFER A PRICE SQUEEZE IF THEY DO NOT RAISE RETAIL PRICES OR CEASE OFFERING PACKET-BASED DEDICATED SERVICES.

Facilities-based competition "is the most effective discipline to anticompetitive price squeezes."[159] But as discussed in the prior section, the last mile is an enduring competitive bottleneck for providing dedicated services—both packet-based and circuit-based—to business, government, and nonprofit customers. Large ILECs still control access to the vast majority of last-mile facilities and, in many cases, the local transport to their locations. The Commission has long acknowledged the risk that "incumbent carriers could strategically manipulate the price of their direct competitors' wholesale inputs to prevent competition in the downstream retail market."[160] A firm with market power in the wholesale market for necessary inputs has "the incentive and ability" to "raise rivals' costs."[161] Dr. Baker similarly notes this incentive.[162]

A. ILECs' Wholesale Prices for Packet-Based Dedicated Services Are Undermining CLECs' Ability to Compete Effectively.

As the proportion of packet-based dedicated services increases relative to circuit-based dedicated services, the large ILECs are implementing customer-by-customer pricing flexibility that they claim was granted under the Commission's *Packet Forbearance* orders (an interpretation Windstream and other CLECs contest) to dismantle the competitive framework

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159 *TRRO* at 2570 ¶ 63.

160 *Id.*

161 *Qwest Phoenix Forbearance Order* at 8639 ¶ 34. *See also Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area*, Second Report and Order, FCC 97-142, 12 FCC Rcd. 15,756, 15,803 ¶ 83 (1997) ("[A] carrier may be able to raise prices by increasing its rivals' costs or by restricting its rivals' output through the carrier's control of an essential input, such as access to bottleneck facilities, that its rivals need to offer their services.").

162 Baker Declaration ¶ 38 n.31.

made possible by affordable last-mile inputs.[163] Necessitating the policy recommendations that will follow in the rest of the comments, ILECs use their control of the wholesale packet-based dedicated services inputs to undermine competition in the downstream retail market in several specific ways.

First, it is plainly apparent that ILECs' wholesale Guidebook rates bear little relationship to real retail prices. *****BEGIN CONFIDENTIAL***** [redacted] *****END CONFIDENTIAL***** which is below its wholesale Guidebook rate for an Ethernet at the same capacity level and term ($1,225) as well as its DS3 three-year rate ($1,232.50).[164] This is consistent with CostQuest's comparison of Telogical-surveyed average retail Ethernet prices to average AT&T and CenturyLink wholesale Ethernet Guidebook rates, which found that surveyed retail Ethernet prices were substantially lower than AT&T and CenturyLink wholesale Guidebook rates.[165] And to obtain even paltry wholesale discounts, a CLEC must make extraordinary commitments as compared to a retail user. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[166]

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[163] *See infra*, Section IX (addressing limited scope of existing forbearance orders). *See also, infra*, Sections IV and V (addressing resale requirements).

[164] *See* Windstream Declaration ¶ 92. *See also* AT&T, AT&T Managed Internet Service (Oct. 28, 2015), http://www.business.att.com/content/productbrochures/mis-with-network-on-demand-brief.pdf (offering "industry-leading Service Level Agreements").

[165] CostQuest White Paper #1 at 12.

[166] Windstream Declaration ¶ 94.

Holding CLECs to wholesale Guidebook prices but offering a comparable service to retail customers for less discriminates against competitive carriers is unjust and unreasonable, and harms competition by driving competitors out of the market.

Second, at least some large ILECs have completely stood the concept of discounts to wholesale customers on its head—by charging the carrier customer much more than a comparable retail customer, even when the carrier customer makes significant volume commitments that the retail customer does not. For example, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[167] As discussed in Sections IV and V, below, this is a fundamental violation of the Act. And even if heavily conditioned wholesale discounts result in rates lower than ILEC retail rates, the ILECs' wholesale discounts are minimal as compared to their retail rates and do not enable competitive retail offerings.[168] Certainly discounts of this magnitude do not come near to reflecting the cost savings to any of these ILECs from wholesale arrangements.

Third, even if a carrier customer can negotiate a meaningful discount off the large ILECs' outsized published wholesale prices, the commercial discount plans may be unilaterally modified by the ILEC in any number of situations that effectively render the contractual term lengths meaningless. For example, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted]

[167] Windstream Declaration ¶ 95.

[168] *See, e.g.*, text accompanying n.164 (describing certain commercial discounts).

[redacted] ***END HIGHLY CONFIDENTIAL***[169]

Fourth, ILECs are charging far more for comparable wholesale inputs when they transmit traffic in an IP, rather than TDM, format, especially at lower speed tiers. A comparison of the prices for TDM and Ethernet services at the AT&T Kings Point, Florida wire center shows that the tariffed monthly price for 1.5 Mbps circuit, i.e., a DS1 connection, is $126 per month under a 36-month commitment plan,[170] while AT&T's wholesale Guidebook lists the price of a comparable Ethernet connection of 2 Mbps at $1,075 per month on a three-year term plan.[171]

BEGIN HIGHLY CONFIDENTIAL [redacted]

[169] *See* Windstream Declaration ¶ 83.

[170] *See* Letter from Malena F. Barzilai, Senior Government Affairs Counsel, Windstream, to Marlene H. Dortch, Secretary, FCC, at Attachment 1, GN Docket Nos. 13-5 & 12-353 (filed June 10, 2014). *See also* Windstream Declaration ¶ 98.

[171] *See* AT&T Switched Ethernet Guidebook, Part 5—Special Access Services, Common, Section 4—AT&T Switched Ethernet Service at § 4.6(1)(A), (C) (July 3, 2012 and Aug. 1, 2013), http://cpr.att.com/pdf/is/0005-0004.pdf.

[redacted]

*****END HIGHLY CONFIDENTIAL*****[172] These increased prices for Ethernet services are not based on higher costs. As Windstream knows from its own experience, capacity is less costly to provision with IP technologies (e.g., Ethernet), so a move from wholesale last-mile access in TDM to IP should result in lower special access prices, not higher like those being charged by the large ILECs.[173]

The fact that ILECs, with packet forbearance, have been able to set Ethernet prices for wholesale purchasers at unjustifiably high levels is confirmed by a report from TeleGeography that shows the United States and Canada have some of the highest prices worldwide for 10 Mbps Ethernet, with a median city price of $1,247, but some of the lowest prices worldwide for DS1s, with a median city price of $463.[174] This U.S. and Canadian urban Ethernet pricing is higher

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[172] *See* Windstream Declaration ¶ 97.

[173] Windstream Declaration ¶ 99. As the Commission has found, "the record is replete with references to the efficiencies inherent in IP-based networks and services and the cost savings that the incumbent LECs should realize from transitioning away from TDM networks and services." *Technology Transitions Order* ¶ 159 n.551. *See also Ensuring Customer Premises Equipment Backup Power For Continuity Of Communications Technology Transitions*, Notice of Proposed Rulemaking and Declaratory Ruling, FCC 14-185, 29 FCC Rcd. 14,968, 14,973 ¶ 7 (2014) ("Modernizing communications networks can dramatically reduce network costs . . . ."); Comments of AT&T Services, Inc. at 62, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket No. 05-25, RM-11358, RM-10593 (filed Feb. 5, 2015) ("No one has questioned or can question that the transition to all-IP networks will greatly enhance the efficiency of telecommunications services and provide a far more capable platform for future innovation."); Comments of Verizon at 5-7, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket No. 05-25, RM-11358, RM-10593 (filed Feb. 5, 2015) (finding fiber offers increased reliability, better performance, and improved energy efficiency).

[174] *See* TeleGeography, *Local Access Pricing Service, 2014 Local Access Market Summary* at 2-4 (2014). *See also id*. at 3 (finding "Ethernet proved to be an attractive alternative to T-1/E-1 service, with costs much less than 5 times the price for 5 times the capacity," but the United States and Canada are "relatively more expensive for 10 Mbps Ethernet than for T-1s, with a median city price of $1,247").

than all regions other than Central and South America and Sub-Saharan Africa.[175] The median 10 Mbps price for the rest of the country in the United States and Canada, $1,466, exceeded that in all regions but East Asia, Central America, and Sub-Saharan Africa.[176] TeleGeography concludes that the market data show "less competitive countries are both lower in capacity and higher in price."[177]

Indeed, the combination of these various efforts by the large ILECs to disadvantage wholesale purchasers as compared to the ILECs' retail customers is having a significant effect on competition in the retail marketplace. *****BEGIN HIGHLY CONFIDENTIAL*****

[redacted] *****END HIGHLY CONFIDENTIAL***** even though last-mile access technologies are increasingly more efficient than ever before.[178] *****BEGIN HIGHLY CONFIDENTIAL*****

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[175] *Id*. at 4 (regions where pricing was lower than the United States and Canada include South Asia, Oceania, Western Europe, East Asia, the Middle East, Eastern Europe).

[176] *Id.* at 13-14 (regions where pricing was lower than the United States and Canada include Oceania, the Middle East, Western Europe, South America, Eastern Europe, and South Asia).

[177] *Id*. at 19.

[178] Windstream Declaration ¶ 87.

[redacted]***END HIGHLY CONFIDENTIAL***[179]

BEGIN HIGHLY CONFIDENTIAL [redacted]

[redacted]***END HIGHLY CONFIDENTIAL***[180] This is no surprise in light of Frost & Sullivan's finding that customer price sensitivity in the business carrier Ethernet services marketplace rates an 8 on a scale of 1 to 10, with 10 being the highest.[181]

Upward pressure on retail rates (or stymying downward trends) is, of course, exactly what the large ILECs seek to achieve. If competitors raise rates, the large ILECs can follow suit. And if the competitors cannot, the margin squeeze these competitors incur can force them from the market. ***BEGIN HIGHLY CONFIDENTIAL*** [redacted]

[179] *Id.* ¶ 86.

[180] *Id.* ¶ 89.

[181] Frost & Sullivan, *Business Carrier Ethernet Services Market Update, 2015* at 9 (Sept. 2015). The industry analyst group reported similar findings for the wholesale carrier Ethernet services market, with wholesale customers' price sensitivity also rated an 8 out of 10. Frost & Sullivan, *Wholesale Carrier Ethernet Services Market Update, 2015* at 7 (Aug. 2015).

[redacted]

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[redacted]*****END HIGHLY CONFIDENTIAL***** Any resulting shift in customers from CLECs to ILECs also reduces the ability of CLECs to leverage existing customers to develop viable business cases for further fiber investments, because this reduces the number of available customers across which to amortize deployment costs.[182]

These competitive effects should inform the Commission's approach to market definition, as well as regulatory action.[183] In particular, the Commission should ensure that ILECs provide reasonable and appropriate wholesale discounts that reflect the manifold cost savings they achieve from wholesale sales; that such discounts are taken from true retail rates, not hypothetical and unrealistic wholesale Guidebook rates; and in no event should the ILEC or its affiliates ever be charging wholesale rates that exceed retail rates. These recommendations will be elaborated upon, respectively, in Sections IV and V.

B. ILECs Further Raise Rivals' Costs Through Discount Plans that Effectively Penalize the Migration from Circuit-Based to Packet-Based Dedicated Services, Even When Carrier Customers Are Spending More Overall on Last-Mile Access.

ILECs are also able to exert anticompetitive control over competitors' access to critical network inputs through hidden costs inserted in the terms and conditions of their term and volume commitment discount plans. The Commission has long recognized the potential for exclusive "discount" plans to be used by incumbents to drive up the costs for the incumbents'

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[182] *See supra*, Section II.B.2.

[183] As the Commission has noted in this proceeding, "[e]vidence of competitive effects can inform market definition." *Data Collection Order* at 16,346 ¶ 68 n.150 (quoting U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines § 4 (2010)).

downstream retail rivals.[184] Windstream and others have provided examples of the ways in which ILEC commitment plans have harmed competition and slowed the transition from TDM to IP-based services by locking up wholesale customers into high levels of TDM-based expenditures.[185]

One of the most pernicious ways that commitment plans undermine competition in the IP era is by imposing punitive shortfall charges if a wholesale customer fails to meet the minimum committed volumes based on historic TDM special access purchase levels, and by disallowing that customer to "count" purchases of Ethernet circuits from the same ILEC toward that minimum commitment.[186] As the IP Transition advances, a competitive provider locked into such a plan would have to continue to pay for TDM circuits *it does not use* to provide customers with the Ethernet services they increasingly demand, or face potentially staggering penalties under its TDM special access discount agreement.[187] This framework substantially raises wholesale input costs—either through the purchase of unneeded circuits or through penalties—for rivals that are seeking to expand their offerings using Ethernet inputs. These plans make it increasingly difficult for competitive providers to compete with the ILEC's retail offerings even when continuing to purchase last-mile inputs from the same ILEC.

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[184] *See, e.g.*, *Tariff Investigation Designation Order* at 11,425-26 ¶ 19. *See also Petition of ACS of Anchorage, Inc. Pursuant to Section 10 of the Communications Act of 1934, As Amended (47 U.S.C. § 160(c)), For Forbearance From Certain Dominant Carrier Regulation of Its Interstate Access Services, and For Forbearance From Title II Regulation of Its Broadband Services, In the Anchorage, Alaska, Incumbent Local Exchange Carrier Study Area*, Memorandum Opinion and Order, FCC 07-149, 22 FCC Rcd. 163,04, 16,343-44 ¶ 87 (2007) (recognizing concerns that even if ACS's special access rates were just and reasonable, "ACS would still have the incentive and ability to increase its rivals' costs by manipulating the terms and conditions under which it offered and provisioned such services").

[185] *See Tariff Investigation Designation Order* at 11,437-38, 11,440 ¶¶ 41-42, 46.

[186] *See id.* at 11,445-46 ¶ 56.

[187] *See id.* at 11,453-44 ¶ 73.

For example, under the Verizon *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[188] Verizon's tariffs contain provisions ostensibly providing the ability to migrate from a DS1 special access service to Ethernet, but these migration provisions, in practice, are very difficult to invoke and implement. First, no new customer location can qualify for the transition and count toward Windstream's commitment level. Second, any Ethernet circuit that Windstream leases at the same location to replace a DS1 circuit will not qualify as a migration unless it has a term commitment at least as long as, if not longer than, the prior DS1 circuit, which means that Windstream often has to sign up for a longer term and potentially incur a larger early termination liability. (Usually the potential term of the wholesale input is misaligned with the term of the retail service provided by Windstream, so Windstream either would have to renegotiate its customer contract or pay for an unused circuit.) Third, the replacement circuit has to cost at least as much as, or more than, the DS1 circuit, even though Ethernet is more cost-efficient than TDM. Fourth, the tariff imposes short timeframes for notifications and disconnections, and the failure to meet any of these timing requirements disqualifies the Ethernet circuit from counting toward the commitment.[189]

[188] Windstream Declaration ¶ 104.

[189] *Id*.

Consequently, ***BEGIN HIGHLY CONFIDENTIAL*** [redacted] ***END HIGHLY CONFIDENTIAL***[190] Such terms and conditions effectively increase the cost of competitive carriers' wholesale inputs beyond what is shown in the discount plan's stated prices and exacerbate the price squeeze described above.

As discussed above, the Commission should act to reduce the harm caused by these types of terms and conditions that unreasonably penalize carrier customers and those carriers' retail customers by requiring all ILECs offering term- and volume-based discount commitments for TDM special access services to permit wholesale customers to meet those commitments or thresholds using purchases of Ethernet as well as TDM special access services.[191] In light of the ongoing transition of all service providers and many retail users to IP, it should be considered unjust and unreasonable to exclude Ethernet circuits with at least as much throughput as TDM DS1 and DS3 circuits from counting toward the attainment of those commitments.

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[190] *See id.* ¶ 105.

[191] *See* Letter from John T. Nakahata, Counsel to Windstream, to Marlene H. Dortch, Secretary, FCC, at 4-5, GN Docket No. 13-5, RM-11358, WC Docket No. 05-25, and RM-10593 (filed Sept. 24, 2015) ("Windstream Sept. 24, 2015 Ex Parte").

IV. THE COMMISSION SHOULD ENSURE THAT WHOLESALE RATES FOR TELECOMMUNICATIONS SERVICES PURCHASED WITHOUT VOLUME COMMITMENTS NEVER EXCEED RETAIL RATES.

Large ILECs are discriminating against carrier customers by charging wholesale sticker prices that are higher than the retail prices for the same or comparable services, and then offering carrier customers "discounts" attaching volume commitments and other requirements that raise the overall costs for carrier customers seeking to provide a competitive alternative to the ILEC. Those competitors are then forced to charge higher prices to their retail customers, which in turn allows the ILECs to sustain their own supracompetitive retail prices. The Commission should act in short order to reinforce statutory nondiscrimination obligations by making clear that charging carrier customers a higher price, without volume commitments, for dedicated services than the price of a comparable retail transmission service violates Section 251(b)(1) as an "unreasonable or discriminatory condition[] or limitation[]"[192] that results in a failure to provide carrier customers and end users services "subject to the same conditions,"[193] and violates prohibitions of Sections 201 and 202 against unjust and unreasonable as well as unreasonably discriminatory practices and charges.

A. The Communications Act Prohibits LEC Discrimination Against Carrier Customers in the Sale of Any Telecommunications Services.

A competitor's ability to purchase a service for resale represents an important check on an incumbent provider's ability to engage in price discrimination and other anticompetitive conduct. The principle that a carrier cannot prohibit the resale of its telecommunications services has long been held by the Commission to be part of the requirements under Sections 201

[192] 47 U.S.C. § 251(b)(1).

[193] 47 C.F.R. § 51.603(b).

and 202 of the Communications Act.[194] The Telecommunications Act of 1996 expanded on this foundation through more specific resale obligations designed to open markets to competition. Section 251 contains two separate resale provisions: Section 251(c)(4) and Section 251(b)(1). Section 251(c)(4), discussed further below, requires an ILEC to offer for resale at a discounted wholesale rate those services that the ILEC offers as a retail service.[195] Section 251(b)(1) expressly provides that "[e]ach local exchange carrier"—whether an ILEC or a CLEC—has the duty "not to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on, the resale of its telecommunications services."[196] Notably, Congress imposed this requirement irrespective of any demonstrated tie to market power or the benefits flowing from being the historical monopoly provider; the presence of discriminatory pricing alone is sufficient evidence of market power.[197]

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[194] *See, e.g.*, *Policy and Rules Concerning the Interstate, Interexchange Marketplace,* Report and Order, FCC 01-98, 16 FCC Rcd. 7418, 7446 ¶ 46 (2001) ("[T]he Commission's Title II resale requirements mandate that wireline common carriers provide telecommunication services to competitors."); *Regulatory Policies Concerning Resale and Shared Use of Common Carrier Domestic Public Switched Network Servs.*, Report and Order, FCC 80-607, 83 FCC 2d 167, 168 ¶ 1 (1980) ("[R]estrictions of any kind on the resale and sharing of domestic public switched network services are unjust, unreasonable, and unreasonably discriminatory, and hence unlawful under Sections 201(b) and 202(a) of the Communications Act."); *Regulatory Policies Concerning Resale and Shared Use of Common Carrier Services and Facilities,* Report and Order, FCC 76-641, 60 FCC 2d 261, 283-284 ¶¶ 40-41 (1976) ("[W]e conclude that the restrictions on the subscriber's resale and sharing of communications service are unjust and reasonable under Section 201(b) of the Act . . . . The tariff provisions which deny service to resellers and sharers are . . . unlawfully discriminatory under Section 202(a) of the Act.").

[195] *See infra*, Section V. *See also* 47 U.S.C. § 251(c)(4).

[196] 47 U.S.C. § 251(b)(1). Section 51.603 of the Commission's rules likewise provides that a LEC "must provide services to requesting telecommunications carriers for resale that are . . . subject to the same conditions . . . that the LEC provides these services to others, including end users." 47 C.F.R. § 51.603(b).

[197] *See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, FCC 96-325, 11 FCC Rcd. 15,499, 15,966 ¶ 939 (1996) ("[T]he ability of incumbent LECs to impose [unreasonable] resale restrictions and

The resale obligation under Section 251(b)(1) is broader than that under Section 251(c)(4) in two important ways. First, it applies to all LECs, not just ILECs. An ILEC cannot avoid this baseline resale obligation by providing the last-mile access service to an affiliated CLEC to then sell as a finished retail product. Second, Section 251(b)(1) is not limited to telecommunications services sold "at retail" to non-carrier customers; this provision applies to *all* telecommunications services. Its nondiscrimination obligation, therefore, encompasses the prices, terms, and conditions provided by an ILEC to its retail end users and/or any CLEC affiliates, even though a CLEC is not an end user. Moreover, the nondiscrimination provision applies to the resale of dedicated services, whether circuit-based or packet-based; transmission that is provided as a best efforts service; and any other services that are "functionally equivalent" to dedicated service or transmission provided as best efforts service, which is determined by whether "customers perceive them as performing the same functions."[198] As elaborated upon in the next subsection, the inclusion of additional *benefits* for the purchaser cannot, by itself, render the nondiscrimination requirement inapplicable.[199]

As consistently held by the Commission, "unlimited resale of communications services in a competitive environment is just and reasonable, and . . . provisions preventing or restricting such practices are unjust and unreasonable and thus unlawful under Section 201(b) of the

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conditions is likely to be evidence of market power and may reflect an attempt by incumbent LECs to preserve their market position.") ("*1996 Order"*). *See also id.* 15,981-82 ¶ 977.

198 *MCI Telecomms. Corp. v. FCC*, 917 F.2d 30, 39 (D.C. Cir. 1990).

199 *See Competitive Telecommn's Ass'n v. FCC*, 998 F.2d 1058, 1062 (D.C. Cir. 1993) (concluding that if the "only non-price difference between" two services is that one "provides an additional service . . . then the two are clearly 'like' within the intendment of § 202").

Communications Act."[200] The recent *Technology Transitions Order* reaffirmed that determination for special access services in particular: "The guarantee of competitive wholesale access free of unreasonable discrimination has played a bedrock role in facilitating the market competition that exists today."[201] This Commission precedent recognizes that the competitive benefit of a resale obligation becomes illusory if ILECs can simply charge more for the wholesale input than they do for their own (or their affiliates') comparable retail services. Pricing an essential wholesale input like last-mile transmission higher than a carrier's own retail prices for a comparable, finished retail service is a canny and now increasingly common ILEC means for raising rivals' costs and discriminating against competitors without outright denying them access to the input.[202]

B. The Commission Should Confirm that Carriers Cannot Avoid the Resale Obligations Merely by Bundling Non-Internet Telecommunications Services with Internet Access or with Add-On Information Services.

Any action that the Commission takes to reform its resale obligation rules could be easily nullified by ILECs unless the Commission also confirms that carriers cannot evade their resale obligations simply by bundling Internet access or other add-on services of non-Internet transmission service to their retail services. Such bundles are increasingly typical in the retail market.[203] To avoid uncertainty regarding the treatment of these bundles and prevent

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[200] *AT&T Communications Apparent Liability for Forfeiture and Order to Show Cause*, Notice of Apparent Liability for Forfeiture and Order to Show Cause, FCC 94-359, 10 FCC Rcd. 1664, 1666 ¶ 12 (1994).

[201] *Technology Transitions Order* at 9466 ¶ 168.

[202] *See supra*, Section II.A.

[203] *See, e.g.*, *CenturyLink Fiber + Enterprise*, CENTURYLINK BUSINESS, http://www.centurylink.com/business/data/fiber-plus-enterprise.html (last visited January 21, 2016); *AT&T Managed Internet Service*, AT&T, https://www.att.com/smallbusiness/content/shop/internet-phone-tv/internet.page (last visited January 21, 2016).

obfuscation, the Commission should confirm that any service that offers customers the ability to send and receive data among points of the customer's choosing through a dedicated connection and without traversing the Internet (or only doing so as an artifice) is a telecommunications service, even if it is sold in a bundle with Internet access and other services.[204] This would reinforce the D.C. Circuit holding that the inclusion of additional benefits for the purchaser cannot, by itself, render the nondiscrimination requirement inapplicable.[205]

With respect to asserted information service capabilities specifically, "[b]oth the Commission and the Court made clear that merely packaging two services together does not create a single integrated service."[206] The telecommunications component of a service must be "inextricably intertwine[d]" with an information service to be treated as part of that information service for regulatory purposes.[207] The telecommunications component is "inextricably

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[204] The Commission has long rejected attempts to "route around" its statutes and rules. For example, a carrier cannot convert an intrastate call to an interstate call simply by routing it out-of-state, and then back. *See AT&T Corp. Petition for Declaratory Ruling Regarding Enhanced Prepaid Calling Card Services*, Order and Notice of Proposed Rulemaking, FCC 05-41, 20 FCC Rcd. 4826, 4834 ¶ 26 (2005) ("[T]he Commission has found that neither the path of the communication nor the location of any intermediate switching point is relevant to the jurisdictional analysis."); *The Time Machine, Inc. Request for a Declaratory Ruling Concerning Preemption of State Regulation of Interstate 800-Access Debit Card Telecommunications Service*, Memorandum Opinion and Order, DA 95-2288, 11 FCC Rcd. 1186, 1190 ¶ 30 (Common Carrier Bur. 1995) ("We have previously held that calls involving 800 switching should be treated for jurisdictional purposes as single, end-to-end communications.").

[205] *See Competitive Telecommn's Ass'n v. FCC*, 998 F.2d at 1062 (concluding that if the "only non-price difference between" two services is that one "provides an additional service . . . then the two are clearly 'like' within the intendment of § 202").

[206] *Regulation of Prepaid Calling Card Servs.*, Declaratory Ruling and Report and Order, FCC 06-79, 21 FCC Rcd. 7290, 7295 ¶ 14 (2006), *vacated in part on other grounds by* Qwest Servs. Corp. v. FCC, 509 F.3d 531, 541 (D.C. Cir. 2007) ("*Prepaid Calling Card Order*").

[207] *See Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, FCC 05-150, 20 FCC Rcd. 14,853, 14,860 ¶ 9 (2005) ("*Wireline Broadband Order*").

intertwined" only to the degree that the service purchased by the customer "always and *necessarily* combines computer processing, information provision, and computer interactivity with data transport."[208] The Commission looks to functionality when determining whether a carrier is "offering" a telecommunications service bundled with information services, or whether the carrier is offering an integrated information service.[209] To the extent that a bundled service offers the functionality of transmitting information between different points on a customer's network without traversing the public Internet, i.e., a dedicated service, it is an offer of a telecommunications service. For example, CenturyLink offers a packet-based dedicated service, which enables the customer to send information to and from different parts of the customer's network, bundled along with Internet access.[210] However, the customer may purchase the service without also purchasing access to the public Internet,[211] and thus the dedicated service offering is not inextricably intertwined with the Internet access component.

C. The Commission Should Reaffirm That Its Prohibition Against Unlawful Discrimination Applies to Prices *and Conditions*.

As discussed in Section III above, the large ILECs are flatly disregarding the statute and Commission precedent by charging rates to retail customers that are below those charged to

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

[209] *See Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, FCC 15-24, 30 FCC Rcd. 5601, 5750 ¶ 342 (citing formulations in prior Commission decisions).

[210] *See* CenturyLink, CenturyLink Fiber + Enterprise at 2, http://www.centurylink.com/business/asset/product-info/fiber-plus-enterprise-po130039.pdf.

[211] *See id.* (describing a Private Port option for customers that need to "connect[] . . . remote locations using IP/MPLS," but that "do not need a connection to the Internet").

wholesale customers.[212] This is consistent with a prior analysis conducted by CostQuest that compared average retail market prices identified by Telogical to wholesale rates charged by AT&T and CenturyLink—including what the average published Guidebook rates would be if a 50 percent discount were applied.[213] CostQuest found that:

> leasing wholesale Ethernet access—even when it may be economically preferable to building—may not be a viable means for a CLEC to provide Ethernet service in some instances because retail Ethernet rates in the marketplace, based upon analysis of Telogical data, may be lower than the wholesale rates (even when a 50 percent discount is presumed) for many of the service speeds. In such cases, the CLEC would not offer Ethernet services, because it is infeasible for a CLEC to expect to recover its wholesale lease expense by charging retail rates far above what other carriers are charging in the marketplace.[214]

The fact that a large ILEC may offer a wholesale "discount" if a CLEC assents to onerous terms and conditions does not eliminate these nondiscrimination concerns. Such rates offered to CLECs are not "subject to the same conditions" as those offered to retail customers if the competitors have to take on longer term, loyalty, volume, and/or spend commitments and obligations that do not apply to the retail customer who purchases a "like" service for the same price. Under longstanding judicial and Commission interpretations of the Communications Act, discriminatory burdens on resale are unlawful unless the ILEC can justify a difference in treatment, and the same standard applies to any ILEC-imposed differences in pricing *or conditions* between a wholesale carrier customer and a retail end-user customer that purchase comparable services.[215] That is, the ILEC has the burden of justifying the practice of charging

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[212] *See supra*, n.167 and accompanying text (describing that retail rates appear to be 17 percent *lower* at the 50 Mbps bandwidth and 48 percent lower at the 1 Gbps bandwidth than what AT&T is charging Windstream on a wholesale basis).

[213] *See* CostQuest White Paper #1 at 11-12.

[214] *Id.* at 12.

[215] *See Nat'l Commc'ns Ass'n v. AT&T Corp.*, 238 F.3d 124, 129-130 (2d Cir. 2001) (applying burden to AT&T to justify provisioning service more slowly for reseller); *MCI Telecomms.*

more to a wholesale buyer that does not participate in a volume commitment plan than an end user that likewise does not participate in a comparable plan.

The ILECs cannot meet this burden. The record in this proceeding amply demonstrates how commitment plans may raise the costs of inputs for competitive providers.[216] By imposing term and volume commitments on competitive carriers as the cost of obtaining discounts off retail prices, ILECs have disguised what are effectively wholesale rates that exceed retail rates.[217] The Commission has concluded that "a price squeeze is evident . . . when a monopolist's wholesale rates exceed retail rates,"[218] and that such a tactic is "an inappropriate, anticompetitive use of . . . monopoly control of local exchange facilities."[219]

The Commission, accordingly, should stop ILECs from using their control of the last-mile bottleneck to undermine competition—by forcing competitors to hobble themselves through longer term and/or volume commitment plans merely to attain rates comparable to retail pricing, or, in the alternative, by undercutting competitors with ILEC retail prices that are lower than the rack rates for their wholesale inputs. Either way, all retail business service customers ultimately face higher prices. The Commission should make clear that it will not tolerate this

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Corp. v. FCC, 917 F.2d 30, 39 (D.C. Cir. 1990) (remanding to Commission to determine whether AT&T's lower price for an integrated retail service is justified). *See also Regulatory Policies Concerning Resale and Shared Use of Common Carrier Services and Facilities*, Report and Order, FCC 76-641, 60 FCC 2d 261, 283 ¶ 40 (1976).

216 *See supra*, Section III.B.

217 *See Tariff Investigation Designation Order* at 11,439 ¶ 45 (quoting Letter from Paul Margie, Counsel to Sprint Corporation, to Marlene H. Dortch, Secretary, FCC, at 5, WC Docket No. 05-25 and RM-10593 (filed Sept. 23, 2015)).

218 *Infonxx Inc. v. New York Telephone Co.*, Memorandum Opinion and Order, FCC 97-359, 13 FCC Rcd. 3589, 3598 ¶ 18 (1997).

219 *Petitions for Waiver of Rules Filed by Pacific Bell, et al.*, Waiver of Rules and Memorandum Opinion and Order, FCC 85-101, 100 FCC 2d 1057, 1094 ¶ 93 n.66 (1985).

anticompetitive behavior by, in addition to measures discussed below, confirming Section 251(b)(1) and Sections 201 and 202 apply to dedicated, best efforts, and functionally equivalent services offered by all LECs to retail customers and LEC affiliates, and that a carrier customer must be able to purchase a wholesale service at rates not to exceed any rates charged to retail customers and LEC affiliates when not subject to volume commitments.

V. COST SAVINGS FROM WHOLESALE SHOULD FLOW THROUGH TO CARRIER CUSTOMERS.

As discussed Section III above, there is substantial evidence that ILECs are charging retail rates below wholesale rates, in violation of Section 251(b)(1). But as the 1996 Act recognized, simply requiring ILECs to charge the same rates to retail and wholesale purchasers is insufficient, as this still allows ILECs to engage in anticompetitive pricing. When subject to meaningful wholesale competition, a typical supplier would charge its wholesale customers *less* per unit than its retail customers. This is because the supplier incurs fewer costs on a wholesale basis (e.g., costs for sales, product development, marketing, customer support, billing and uncollectibles are avoided or greatly reduced), and the supplier commonly is assured reduced churn and greater revenue certainty by wholesale customers' committing to larger volumes and longer purchase terms. The 1996 Act, as well as Sections 201 and 202 of the Communications Act, demand recognition of these savings in telecommunications rates.

Careful attention to wholesale customers is especially important in this context. As Dr. Baker notes, "Entry through leasing from an ILEC may be expensive, because the ILEC may have an incentive to raise wholesale prices to limit the possibility that the resulting retail competition would result in lower ILEC retail prices."[220] And as the United States Supreme

[220] Baker Declaration ¶ 38.

Court has concluded, "When costs are fully allocated, both the retail rate and the proposed wholesale rate may fall within a zone of reasonableness, yet create a price squeeze between themselves. There would, at the very least, be latitude in the [agency] to put wholesale rates in the lower range of the zone of reasonableness, without concern that overall results would be impaired, in view of the utility's own decision to depress certain retail revenues in order to curb the retail competition of its wholesale customers."[221]

A. The Communications Act Recognizes that ILEC Wholesale Rates Should Account for Costs That Are Avoided (i.e., Saved) When Selling on a Wholesale Basis.

The 1996 Act recognizes that an ILEC avoids substantial costs when selling telecommunications services on a wholesale basis, and these savings should flow through to carrier customers, which then can charge their retail customers competitive rates for the communications solutions provided. Specifically Section 251(c)(4) and 252(d)(3) require ILECs to make available all telecommunications services at wholesale rates that, in contrast to retail rates, exclude "the portion thereof attributable to any marketing, billing, collection, and other costs that will be avoided by the local exchange carrier."[222]

This requirement is not limited to TDM services or only to voice services: the Commission's orders and rules apply this wholesale discount requirement to all "advanced telecommunications services," which includes packet-switched wireline broadband transmission services when such services are offered "at retail," i.e., to end users that are not carriers.

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[221] *Fed. Power Comm'n v. Conway Corp*., 426 U.S. 271, 279 (1976), *quoting Conway Corp. v. Fed. Power Comm'n*, 510 F.2d 1264, 1274 (D.C. Cir. 1975) (citing *Conway* as a basis for remand for further consideration of whether UNE rates permitted an anti-competitive price squeeze).

[222] 47 U.S.C. § 252(d)(3).

Moreover, the Commission has not forborne from these requirements with respect to any ILEC dedicated services, whether TDM or packet-based.

Ethernet services squarely fall under this ILEC requirement. Section 251(c)(4)'s resale obligation, by its terms, applies to any ILEC wireline broadband services offered as transmission services, including packet-based dedicated services.[223] In its 1998 Memorandum Opinion and Order in the *Advanced Services* proceeding, the Commission recognized this, noting that it "has repeatedly held that specific packet-switched services are 'basic services,' that is to say, pure transmission services."[224] The Commission concluded "that under the plain terms of the [Communications] Act, incumbent LECs have an obligation to offer for resale . . . *all advanced services* that they generally provide to subscribers who are not telecommunications carriers."[225] There can be no doubt that packet-based transmission services, including Ethernet, are

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[223] *See Deployment of Wireline Services Offering Advanced Telecommunications Capacity et al.*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, FCC 98-188, 13 FCC Rcd. 24,012, 24,014 ¶ 3 (1998), *remanded on other grounds, US West v. FCC*, 1999 WL 728555 (D.C. Cir. 1999) ("For purposes of this item, we use the term 'advanced services' to mean wireline, broadband telecommunications services, such as services that rely on digital subscriber line technology (commonly referred to as xDSL) and packet-switched technology." (footnotes omitted)) ("*Advanced Services Order*").

[224] *Id.* at 24,029-30 ¶ 35 (footnote omitted).

[225] *Id.* at 24,028 ¶ 32 (emphasis added). The Commission's decision in *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Second Report and Order, FCC 99-330, 1999 WL 1016337 (1999), *summarized at* 65 Fed Reg. 6912 (February 11, 2000), did not alter this conclusion. The *Second Report and Order* unremarkably held that separate bulk volume and term plans sold to wholesale purchasers were not sold "at retail," and thus were not subject to an additional avoided cost discount. *Id*. ¶ 17.

telecommunications services,[226] and specifically are advanced services for purposes of Section 251(c)(4) and the Commission's implementing rules.[227]

The fact that TDM special access services are sold from tariffs that were historically considered exchange access tariffs does not exempt either TDM or packet-based dedicated services from the Section 251(c)(4) requirement to provide a wholesale discount. Although Section 51.607 of the rules contains an exception from wholesale discounts for "exchange access services," that exception is limited by Section 51.605(d), which states that "advanced telecommunications services that are classified as exchange services are subject to" the wholesale discount rules "if such services are sold on a retail basis to residential and business end-users that are not telecommunications carriers."[228] In other words, special access services sold to business users that are not telecommunications carriers remain subject to mandatory wholesale discounts and do not automatically fall within the scope of excluded exchange access services.

Any attempt to read Section 51.607 broadly to exclude all special access services and specifically those targeted and sold to, *inter alia*, non-carrier business users is nonsensical and violates basic canons of statutory interpretation. In the 1999 *Advanced Services Order*, the Commission amended Section 51.605(d) with the express purpose of applying wholesale discount rules to advanced services even when those advanced services are classified as

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[226] *See Wireline Broadband Order* at 14,861 ¶ 9 ("These broadband [including "gigabit Ethernet service"] telecommunications services remain subject to current Title II requirements.").

[227] *Advanced Services Order* at 24,014 ¶ 3. As discussed in Section IV.B, above, the Commission should make clear that carriers cannot avoid these obligations merely by bundling Internet access and other add-on services to its retail telecommunications offerings.

[228] 47 C.F.R. § 51.605(d).

"exchange access" services.[229] Any interpretation that would exclude a retail advanced service from the wholesale discount rules merely because it may also be an "exchange access" service fails to give both sections effect and avoid the "untenable" result of rendering Section 51.605(d) "a nullity."[230] It would violate the canon that the more specific of the two rules governs the more general, i.e., the specific exception for advanced telecommunication services controls over the more general treatment of the broader set of exchange access services.[231] Accordingly, Section 51.607's language does not disturb the conclusion that retail Ethernet services must be made available at discounted wholesale prices to competitive providers.[232]

The Commission has not forborne from these requirements with respect to any dedicated services. In those instances in which it affirmatively granted forbearance, the Commission specifically declined to forbear from Section 251 requirements.[233] Nor was such relief granted to

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[229] *Advanced Services Order* at 24,014 ¶ 3.

[230] *Sec'y of Labor v. Twentymile Coal Co.*, 411 F.3d 256, 260 (D.C. Cir. 2005).

[231] *See Long Island Care at Home, Ltd. v. Coke*, 551 U.S. 158, 170 (2007).

[232] If the Commission were to conclude—contrary to Section 51.605(d)—that the wholesale pricing standard does not apply to an advanced telecommunication service that happens to be an exchange access service, the standard would still apply to retail Ethernet transmission services because such services are not within the statutory definition of an "exchange access service." "Exchange access" is defined in the Communications Act as "the offering of access to telephone exchange services or facilities for the purpose of the origination or termination of telephone toll services." 47 U.S.C. § 153.20. A "telephone toll service," in turn, means "telephone service between stations in different exchange areas for which there is made a separate charge not included in contracts with subscribers for exchange service." *Id.* § 153.55. An Ethernet transmission service that is *offered to retail customer*s is not an "exchange service" because there is no "separate charge not included in the contracts" paid by the customers beyond the payments made to the carrier offering the Ethernet service.

[233] *AT&T Packet Forbearance Order* at 18,739 ¶¶ 69, 70; *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, FCC 08-168, 23 FCC Rcd. 12,260, 12,284 ¶ 43 (2008) ("Our forbearance grant is restricted to broadband services that Qwest currently offers and lists in its petition.") ("*Qwest Packet Forbearance Order*"); *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 and*

Verizon or CenturyLink by operation of law. Verizon specifically stated that "[t]his relief sought here is the same as the Commission already provided for broadband transmission services that are used to provide Internet access service in its recent *Wireline Broadband Order*."[234] That Order, however, specifically did not alter Section 251(c) obligations, stating, "[T]he decisions contained in this Order have no [e]ffect on Section 251(c) obligations of incumbent LECs."[235] In addition, CenturyLink did not seek forbearance from Section 251(c)(4).[236]

B. Longer Term and/or Volume Commitments Assumed by Wholesale Purchasers—Which Provide ILECs Cost Savings by Reducing Churn and Uncertainty Should Be Factored Into Wholesale Discounts.

Any Commission evaluation of wholesale rates, in relationship to retail rates, should take into account benefits ILECs attain from longer term and/or volume commitments. A competitive marketplace would be expected to generate wholesale rates reflecting these lower costs due to longer volume and term commitments, as would appropriate application of Section 251(c)(4) and Sections 201 and 202. Failing to include any subset of avoided costs fully exacerbates the inherent risk of an anticompetitive price squeeze that is present in an avoided costs approach.[237]

Petition of the Frontier and Citizens ILECs for Forbearance Under Section 47 U.S.C. § 160(c) from Title II and Computer Inquiry *Rules with Respect to Their Broadband Services*, Memorandum Opinion and Order, FCC 07-184, 22 FCC Rcd. 19,478, 19,500 ¶ 39 (2007) ("*Embarq and Frontier Packet Forbearance Orders*").

234 Verizon Forbearance Ex Parte at 3.

235 *Wireline Broadband Order* at 14,952 ¶ 27 n.64. To the extent that Verizon's February 7, 2006 ex parte has other statements that could be read more broadly, because this language was all drafted by Verizon, it should be construed narrowly, with the more specific discussion governing the more general.

236 CenturyLink's Petition for Forbearance Pursuant to 47 U.S.C. § 160(c) from Dominant Carrier Regulation and *Computer Inquiry* Tariffing Requirements on Enterprise Broadband Services, WC Docket No. 14-9 (filed Dec. 13, 2013) ("CenturyLink Petition for Forbearance").

237 Because an avoided cost discount does not capture increasing returns to scale, even when calculated encompassing all avoided costs, an avoided cost discount carries the risk that the ILEC will nonetheless be able to force its rival to "operate at the high end of its average cost

Such a result would frustrate the Act's wholesale resale requirement and prohibition on unjust and unreasonable and unreasonably discriminatory pricing.

Accordingly, the Commission's rules that detail certain cost savings as the basis for avoided cost discounts should not be viewed as exhaustive.[238] Applying only the items enumerated in Section 51.609 of the rules would understate the costs that ILECs avoid, particularly if a wholesale purchaser is willing to commit to substantial purchase volumes or for a longer term than the average retail purchaser.[239] Significant additional ILEC cost savings may arise, for example, when carrier customers agree to five- or seven-year wholesale purchase commitments (and use these circuits to serve individual customers whose retail agreements may be for shorter terms). In this situation, the ILEC knows that it will receive revenue for the term associated with the circuit, reducing substantially the business uncertainty that comes with shorter terms. The same is true with respect to volume commitments. When the Commission estimated avoided cost discounts for some services in implementing the 1996 Act, it provided for interim discounts between 17 and 25 percent.[240] But in the presence of longer term or volume commitments, these wholesale discounts unquestionably should be higher.

As a means of evaluating the degree to which added term and volume reduces ILEC costs, the Commission could, for example, consider the pattern of discounts that ILECs have

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curve," above the ILEC's average costs, thus allowing the incumbent to exercise market power to the detriment of consumers. *See* Nicholas Economides, *The Tragic Inefficiency of the M-ECPR*, *in* Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies (Allan Shampire 2003) at 146, http://www.stern.nyu.edu/networks/Economides_M-ECPR.pdf.

238 *See* 47 C.F.R. § 51.609.

239 In any event, Section 51.609 was never an exhaustive list of avoided costs, as it permits state commissions to recognize other costs as avoidable. *See* 47 C.F.R. § 51.609(d).

240 47 C.F.R. § 51.611(b).

offered for TDM special access services—whereby carrier customers that make longer term and volume commitments on a wholesale basis have received additional discounts on last-mile inputs used for provisioning retail offerings at shorter durations.[241] *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** The large ILECs, however, are not offering similar Ethernet discounts. For example, AT&T's Guidebook rates for AT&T Switched Ethernet (Interactive) do not provide further discounts for terms beyond three years. And in fact, as discussed in Section III above, the large ILECs' wholesale Ethernet rates are in some cases *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** as compared to actual retail rates.

C. The Commission Should Exercise Its Authority Under Sections 201 and 202 to Ensure a Large Enough Wholesale Discount to Prevent Anticompetitive Price Squeezes.

Consistent with the Supreme Court's decision in *Conway*, the Commission has jurisdiction under Sections 201 and 202 to prevent anticompetitive price squeezes as unjust and unreasonable and unreasonably discriminatory.[242] The Commission should exercise that authority here.[243] It should view with great skepticism—and presume unreasonable—ILECs'

[241] Windstream Declaration ¶ 91.

[242] *See* n.221 and accompanying text.

[243] As discussed in Section IX, the Commission should also ensure that Verizon is subject to Section 201 and 202 for all special access services, as are all other ILECs.

failures to offer meaningful whole Ethernet discounts in response to standard avoided costs, as well as term and volume commitments.

There is no reason to believe lower discounts for Ethernet could be justified by higher Ethernet costs for the same level of bandwidth, or fewer cost savings from longer terms or higher commitments. In fact, the opposite is likely true, as Ethernet costs will continue to fall during the longer term of the contract as electronics costs fall. Moreover, there is nothing about Ethernet, as compared with TDM, that would render cost savings—including from financial stability and avoided churn—any lower for Ethernet than for TDM. The ILECs' practice of largely (if not entirely) ignoring these savings simply is another way to raise average prices and to execute a raising-rivals'-costs strategy, to the detriment of consumers and competition.

Effectively, the large ILECs are imposing a tax on IP-based services, whereby competitors suffer a price squeeze if they use IP-based connectivity when connecting their fiber networks to business locations. Such a tax is not only anticompetitive, but it also frustrates the objectives of Section 706. When CLECs build out their own networks, they can serve part of the needs of a multilocation customer, but rarely will they be able to serve that multilocation customer entirely over their own facilities. The large ILECs' ability to raise rivals' costs for off-net connections adversely affects the business case for network builds.[244] By minimizing the large ILECs' ability to execute a raising-rivals'-costs strategy, the Commission will continue to promote fiber network builds by CLECs and the benefits of competition for business customers. In particular, the Commission should clarify and, where necessary, adopt rules to ensure that wholesale discounts are taken from true retail prices, that the discounts reflect all costs avoided as well as benefits conferred through substantial term and volume discounts undertaken by

[244] *See* Baker Declaration ¶ 78.

wholesale purchasers, and that ILECs do not artificially truncate such discounts to raise rivals' costs as wholesale purchasers seek to buy more Ethernet services. Such Commission actions would fulfill the Act's wholesale resale requirements in Section 251(c)(4), and better maintain just and reasonable rates under Sections 201 and 202.

VI. THE COMMISSION SHOULD GRANT WINDSTREAM'S PETITION TO CONFIRM THE CONTINUED AVAILABILITY OF UNBUNDLED DS1 AND DS3 CAPACITY LOOPS USED BY SMALLER BUSINESS, GOVERNMENT, AND NONPROFIT LOCATIONS.

The record in this proceeding confirms that the Commission should grant Windstream's petition for a declaratory ruling that ILECs' obligations to provide access to unbundled DS1 and DS3 capacity loops are unaffected by any change from copper to fiber or a change in transmission protocol from TDM to IP.[245] ~~***BEGIN HIGHLY CONFIDENTIAL***~~ As reaffirmed by the Commission's Data Request responses, these loops, where they are available, play an important role in providing some discipline to DS1 and DS3 special access services and lower-bandwidth Ethernet services.~~***END HIGHLY CONFIDENTIAL***~~[246] Congress enacted the unbundling requirements of Section 251(c) of the Communications Act "with a recognition of the market barriers faced by new entrants,"[247] and intended for unbundled network elements to be available as "an *alternative* to" special access services where limited access to

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[245] Windstream's 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), GN Docket No. 13-5 (filed Dec. 29. 2014) ("Windstream Petition").

[246] *See* Baker Declaration ¶ 58 ~~***BEGIN HIGHLY CONFIDENTIAL***~~ (finding that the "the presence of a provider offering dedicated services through a UNE lowers the [ILEC] retail price by an addition 3.9% (for any given number of in-building and nearby providers)."). Notably, Dr. Baker found a much more significant effect from the presence of four or more providers with their own last mile connecting into the building.~~***END HIGHLY CONFIDENTIAL***~~ *See* Baker Declaration ¶ 57.

[247] *Triennial Review Order*, at 16,985 ¶ 5 (2003).

bottleneck facilities would impair a competitive carrier's ability to provide the services it seeks to offer.[248] However, unless the Commission grants Windstream's petition, consumers will likely face less choice and higher prices as ILECs carry out their stated intent to stop providing unbundled access to these loops if they are composed of fiber or convey traffic in an IP format.

Access by competitive carriers to unbundled DS1 and DS3 capacity loops is an essential element for robust competition to reach smaller business, government, and nonprofit sites.[249] As discussed in Section II, above, competitive carriers "are the primary source of competition for wireline communications services purchased by enterprise customers, including government,

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[248] *TRRO* at 2562 ¶ 51. *See also* 47 U.S.C. § 251(d)(2).

[249] *See* Reply Comments of Windstream Services, LLC With Respect to Its Petition for a Declaratory Ruling at 5-6, GN Docket No. 13-5 and WC Docket No. 15-1 (filed Mar. 9, 2015) ("Windstream Petition Reply Comments"). A broad range of parties—including consumer groups, state government agencies, businesses, small incumbent carriers, and competitive carriers—all supported Windstream's petition. *See, e.g.*, Comments of Public Knowledge *et al.* at 16, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket Nos. 05-25, 15-1, RM-11358, RM-10593 (filed Feb. 5, 2015); Comments of XO Communications on the Tech Transitions Notice of Proposed Rulemaking and on the Petition for Declaratory Ruling of Windstream at 27-28, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket Nos. 05-25, 15-1, RM-11358, RM- 10593 (filed Feb. 5, 2015); Comments of the Ad Hoc Telecommunications Users Committee at 20-21, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket Nos. 05-25, 15-1, RM-11358, RM-10593 (filed Feb. 5, 2015); Comments of COMPTEL at 37-39, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket Nos. 05-25, 15-1, RM-11358, RM-10593 (filed Feb. 5, 2015); Comments of Birch, Integra, and Level 3 at 39-40, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket Nos. 05-25, 15-1, RM-11358, RM-10593 (filed Feb. 5, 2015); Joint Comments of Grande Communications Networks LLC and U.S. TelePacific Corp. at 2-4, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015); Comments of Granite Telecommunications, LLC Supporting Windstream's Petition for Declaratory Ruling at 2-3, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015); Comments of the Pennsylvania Public Utility Commission at 3, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015); Reply Comments of the Vermont Public Service Board & Vermont Public Service Department at 2-3, WC Docket NO. 15-1, GN Docket No. 13-5 (filed Feb. 27, 2015); Comments of NTCA—The Rural Broadband Association at 4 n.3, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket No. 05-25, RM-11358, RM-10593 (filed Feb. 5, 2015).

healthcare, schools, and libraries,"[250] and unbundled DS1 and DS3 capacity loops enable this competition at the many smaller customer sites where it is economically infeasible for a carrier to overbuild incumbent last-mile facilities. ~~***BEGIN HIGHLY CONFIDENTIAL***~~ Dr. Baker confirms the importance of UNEs to enabling customer choice, noting that "[a] clear majority of UNEs (63%) are supplied to buildings with only one facilities-based connection."~~***END HIGHLY CONFIDENTIAL***~~[251] ***BEGIN HIGHLY CONFIDENTIAL*** [redacted] ***END HIGHLY CONFIDENTIAL***[252] Ensuring the continued availability of unbundled DS1 and DS3 capacity loops is especially crucial to foster continued competition for lower-bandwidth dedicated service customers who otherwise would have the ILEC as the sole Ethernet provider.

The largest ILECs—AT&T, Verizon, and CenturyLink—nevertheless assert that the obligation to provide unbundled DS1 and DS3 capacity loops vanishes when a loop is comprised of fiber or transmits traffic in an IP format.[253] As Windstream and others have explained, these

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[250] *See Technology Transitions Order* at 9445-46 ¶ 134.

[251] Baker Declaration ¶ 44 n.42.

[252] Windstream Declaration ¶ 64.

[253] *See* AT&T Opposition at 2, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015); Verizon Opposition at 2, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015);

ILECs' position is contrary to the text of the current unbundling rules and the express language of the Commission's *Triennial Review Order* and the *Triennial Review Remand Order*.[254] The Commission consistently has recognized the importance of unbundled DS1 and DS3 capacity loops for promoting competition. The *TRRO* emphasized that these loops place an important check on special access pricing as a complementary market-opening tool, without which there would be "an unacceptable level of incumbent LEC abuse because incumbent carriers could strategically manipulate the price of their direct competitors' wholesale inputs to prevent competition in the downstream retail market."[255] Indeed, the Commission's decisions to forbear from dominant carrier regulation of Ethernet special access service for the large ILECs are predicated in part on the existence of UNE alternatives.[256] AT&T itself relied on the continued availability of "these still-highly-regulated ILEC TDM inputs" to justify forbearance with respect to Ethernet services in its brief before the D.C. Circuit when defending the Commission's Ethernet forbearance orders.[257] And in the *Qwest Phoenix Forbearance Order*, the Commission

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Reply Comments of CenturyLink at 5, WC Docket No. 15-1, GN Docket No. 13-5 (filed Mar. 9, 2015).

254 *See* Windstream Petition Reply Comments at 8-16. *See also id.* at 5 & n.15 (citing comments from consumer groups, state government agencies, businesses, small incumbent carriers, and competitive carriers, all in support of Windstream's petition).

255 *TRRO* at 2570-71 ¶ 63 (internal footnote omitted).

256 *See, e.g.*, *AT&T Packet Forbearance Order* at 18,716-17 ¶ 20 n.86 (2007) ("[W]e observe that the relief we grant excludes TDM-based, DS-1 and DS-3 special access services. Thus, those services, in addition to section 251 UNEs, remain available for use as wholesale inputs for these enterprise broadband services.").

257 Brief for Intervenors AT&T Inc., et al. in Support of Respondents at 11 (filed Dec. 3, 2008), *Ad Hoc Telecommunications Users Committee, et al., v. FCC*, No. 07-1426 (D.C. Cir. 2008) ("Because these [ATM and frame relay over TDM circuits] are alternative technologies [to Ethernet] within the same market for enterprise services, competing providers could purchase these still-highly-regulated ILEC TDM inputs to compete effectively in that market, even in circumstances where the provider could not deploy its own facilities-based alternative or purchase capacity from a third-party provider, and even if petitions had any basis for challenging the Commission's conclusions about Ethernet-over-TDM.") (internal citations

affirmed that a firm with market power in the wholesale market for necessary inputs "may have the incentive and ability to discriminate against rivals in downstream retail markets or raise rivals' costs."[258]

DS1 and DS3 capacity loop unbundling rules recognize the substantial advantages enjoyed by ILECs in provisioning last-mile access. Fiber is not a novel mode of transmitting DS1 and DS3 traffic. Fiber has been in existence since the 1970s, and legacy loops comprised of fiber were installed as very low-risk investments. Moreover, the use of fiber or IP transmission does not magically erase the impairment that justifies DS1 and DS3 capacity loop unbundling. As the Commission recognized in the *Qwest Phoenix Forbearance Order*, the "passage of time has [not] lowered [the] barriers" to deployment of competitive facilities, nor has it lessened the danger of "downstream" customer impacts that can arise where a single party holds substantial market power in the upstream wholesale market.[259] And just last month, in upholding the requirement that incumbents provide competitive access to newly deployed entrance conduit in brownfield areas at regulated rates, the Commission highlighted the inherently "more favorable environment" incumbents have for building out last-mile facilities "due to existing relationships with property owners and prospective customers."[260]

Without ongoing unbundling obligations for DS1 and DS3 capacity loops, ILECs would have a significant advantage over their competitors in the business marketplace. The ILECs

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omitted). Predictably, AT&T offers a different, creative view of the unbundling rules when it is seeking to avoid or reduce its regulatory burden.

[258] *Qwest Phoenix Forbearance Order* at 8639-40 ¶ 34.

[259] *See id.* at 8670 ¶ 90.

[260] *Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) From Enforcement of Obsolete ILEC Legacy Regulations that Inhibit Deployment of Next-Generation* Networks, Memorandum Opinion and Order, FCC 15-166, 2015 WL 9491578, *33 ¶ 83.

would be able to continue to use legacy copper and fiber loops to provide their own IP services, but could block CLECs from doing the same or permit them to do so only at much higher cost. In addition, the ILECs would be able to prevent CLECs from similarly utilizing ILECs' "new" fiber builds that repurpose legacy unbundled network infrastructure, such as buried conduit, pole attachments, and building entry portals. As such, the ILECs would essentially be able to engage in self-help that is inconsistent with the Commission's recent denial of forbearance from the requirement to provide competitive access to newly deployed entrance conduit in brownfield areas at regulated rates.

The large ILECs already are engaging in precisely this type of anticompetitive behavior for the Ethernet services for which they had received limited forbearance.[261] As noted above, the large ILECs' assertion that the unbundling rules do not apply to any fiber loops or copper loops transmitting traffic in an IP format ironically undermines a key factor that supported the Commission's grant of limited forbearance for packet-switched services in the first place. The record in this proceeding shows that ILECs are the only last-mile connection to the substantial majority of business locations,[262] and this supports prompt Commission action to avoid further harm to competition by ensuring that unbundled DS1 and DS3 capacity loops remain a viable source for competitive carriers' use to provide an alternative to dedicated service customers.

Timely regulatory action is important because even the uncertainty of potentially losing unbundled DS1 and DS3 capacity loops hinders competitive providers' ability to offer dedicated services to business customers. Small and medium-sized businesses generally purchase communications services on multiyear terms. Thus, competitive carriers are bidding today on

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[261] *See supra*, Section II.A.

[262] *See* n.4 and accompanying text.

services they will provide several years from now.[263] Uncertainty as to the continued availability of unbundled DS1 and DS3 capacity loops harms competitors' ability to ensure they can control the quality and attributes of the services they provide and to offer the lowest possible prices.[264] The ultimate result of these conditions will be less choice and higher prices for business, government, and nonprofit customers.

VII. THE COMMISSION SHOULD PLACE A PERMANENT REGULATORY BACKSTOP AGAINST ANY PRICING OF WHOLESALE ETHERNET INPUTS ABOVE COMPARABLE WHOLESALE TDM INPUTS.

The Commission should ensure not only that an ILEC's wholesale prices are set below its retail prices, but also that wholesale input prices do not go up if this capacity is transmitted in an IP format. Recognizing that failure to protect wholesale access "risk[s] allowing the benefits of competition to be lost irrevocably," the Commission provided interim service discontinuance rules in the *Technology Transitions Order* as an important stop-gap until comprehensive reform can be completed.[265] The interim rules require ILECs "that discontinue a TDM-based service to provide competitive carriers reasonably comparable wholesale access on reasonably comparable rates, terms, and conditions during the pendency of the special access proceeding."[266] Under these rules, the Commission evaluates whether the rates, terms, and conditions of Ethernet wholesale service are "reasonably comparable" based on the totality of the circumstances, informed by responses to five specific questions.[267] The Commission noted that the particular

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263 *See* Windstream Petition at 2.

264 *See id.*

265 *Technology Transitions Order* at 9450-51 ¶ 141.

266 *Id.* at 9427 ¶ 101.

267 *See id.* at 9462-63 ¶ 159. The five factors are: (1) will price per-Mbps increase for bandwidths at or below 50 Mbps; (2) will a provider's wholesale rates exceed its retail rates for the replacement product; (3) will reasonably comparable wholesale basic voice and data services be available; (4) will bandwidth options be reduced; and (5) will service delivery or

question of whether there will be an increase in the price per-Mbps "goes to the price relationship between TDM and IP products that is the heart of the interim reasonably comparable wholesale access condition."[268] The Commission also questioned whether the lowest bandwidth product at or above a DS1 level should be subject to any price increase, given "significant evidence in the record demonstrating a significant continued reliance upon basic service levels at this time."[269] The record in this proceeding demonstrates that the Commission should preserve and extend this technology transitions regulatory backstop.

Concerns underlying the Commission's *Technology Transitions Order* continue to warrant rules ensuring that ILECs offer reasonably comparable wholesale services in the IP era and that per-Mbps and lowest-cost input prices do not exceed those of wholesale TDM services where other providers do not offer reasonably comparable wholesale alternatives to a customer location, even if the Commission adopts Windstream's other recommendations for competition

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quality be impaired. *See id.* 9462-63 ¶ 159. The Commission also observed that "it would be a cause for concern if incumbent LECs evaded the interim wholesale access condition through improper workarounds," or "backdoor price increases," and the Commission "emphasize[d] that our 'reasonably comparable' standard allows us to evaluate the totality of the circumstances, including any apparent attempts at evasion." *Id*. at 9470 ¶ 178.

[268] *Id.* at 9463 ¶ 162. As the Commission explained in the *Technology Transitions Order*, under this inquiry, for IP services at or below 12 Mbps, the TDM benchmark per Mbps rate should be based on the DS1 TDM service the ILEC offered in the area, and for IP services above 12 Mbps and at or below 50 Mbps, the TDM benchmark per Mbps should be based on the DS3 service the ILEC offered in the area. *See id.* at 9465 ¶ 165. The Commission "adopt[ed] a 12 Mbps threshold for calculating comparable rates for replacement services based on DS1 pricing because it most closely replicates the options that exist today since it is technologically infeasible to bond DS1 special access services to provide more than 12 Mbps in capacity." *Id*. It "inquire[d] about replacement services above 12 Mbps based on comparisons to DS3 prices since the only viable TDM special access option for delivering more than 12 Mbps service to a customer location is a DS3 service." *Id*.

[269] *Id.* at 9467 ¶ 170. Moreover, the Commission highlighted that "efficiencies inherent in the provision of IP service will ensure that even if incumbent LECs maintain rates equal to or below TDM rates for the DS1 replacement service, the resulting rates will allow incumbent LECs to recover their investment in marginally faster IP services." *Id.* at 9467 ¶ 171.

policy reforms. As discussed above, currently the price of a 2 Mbps Ethernet circuit under Windstream's commercial agreement with AT&T is *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** the price of a DS1 special access circuit including the commercial agreement discount.[270] The magnitude of the price disparity between TDM and Ethernet inputs means that even with sizable wholesale discounts, competitive providers and end user customers will still experience a large price increase as ILECs transition to Ethernet services. The brunt of this price increase will be borne by customers purchasing dedicated services with lower bandwidth needs, many of which are main-street businesses with a single location and relatively few employees.[271] Nor is there reason to believe that these end users have numerous solution choices not dependent on use of the ILEC's last-mile connection. Given that the ILECs are the sole last-mile connection to the vast majority of buildings, these customers are also more vulnerable to sustained price increases and loss of competitive choice; as the CostQuest deployment model shows, their modest bandwidth demands make it much more difficult for a competitive provider to generate enough revenue to support overbuilding ILEC facilities with its own fiber.[272]

Indeed, there is no cost-based justification for charging higher rates for Ethernet service than for a TDM service that is comparable from the perspective of the customer.[273] All carriers,

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[270] Windstream Declaration ¶ 97.

[271] *See* Windstream Technology Transitions Comments at 19-20. *See also id.* at 8-9 (providing example of business customers that have chosen Windstream's services over those of the incumbent).

[272] *See* CostQuest White Paper #1 at 9 (showing that a competitive provider would have to sell more than six 10 Mbps Ethernet circuits *per building*, compared to selling more than one 1 Gbps circuits, in order to break even on construction costs).

[273] *See Technology Transitions Order* at 9462 ¶ 159 n.551. *See also Ensuring Customer Premises Equipment Backup Power For Continuity Of Communications Technology Transitions*, Notice of Proposed Rulemaking and Declaratory Ruling, FCC 14-185, 29 FCC

including ILECs, will continue to have their own significant business reasons for migrating from TDM to IP and from copper to fiber networks.[274] Requiring parity, at a minimum, between wholesale prices for comparable TDM and Ethernet services does not negate any of these important business incentives for transitioning to fiber/IP services, and indeed would still provide ILECs with a substantial windfall if the Commission does not adopt previously proposed reforms that would help ensure wholesale rates are updated to account for substantial improvements in cost conditions due to fiber and IP-based technologies.

In light of these concerns, the Commission should require that the IP-based wholesale access be made available, at a minimum, on reasonably comparable rates, terms, and conditions as compared to the tariffed TDM wholesale access on a permanent basis in any building that lacks an alternative for wholesale access meeting these provisions. If there is no such alternative, an ILEC, specifically, should offer reasonably comparable wholesale access in IP in a nondiscriminatory manner and at rates not exceeding, on a per Mbps basis, those for TDM wholesale inputs that otherwise could be used to provision the requested service.[275] The ILEC

Rcd. 14,968, 14,973 ¶ 7 (2014); Comments of AT&T Services, Inc. at 62, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket No. 05-25, RM-11358, RM-10593 (filed Feb. 5, 2015); Comments of Verizon at 5-7, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket No. 05-25, RM-11358, RM-10593 (filed Feb. 5, 2015).

[274] *See* Reply Comments of Windstream Services, LLC at 18 n.59, 48 n.157, GN Docket No. 13-5, RM-11358, WC Docket Nos. 05-25 & 15-1, RM-10593 (filed Mar. 9, 2015); *Technology Transitions Order* at 9462 ¶ 159 n.551; Windstream Declaration ¶ 99.

[275] In evaluating per-Mbps rate comparability, the Commission, consistent with the approach it adopted in the *Technology Transitions Order*, should base the TDM benchmark per-Mbps rate on the DS1 TDM service the ILEC offered in the area for IP services at or below 12 Mbps, and on the DS3 service the ILEC offered in the area for IP services above 12 Mbps and at or below 50 Mbps. *See Technology Transitions Order* at 9465 ¶ 165. The Commission "adopt[ed] a 12 Mbps threshold for calculating comparable rates for replacement services based on DS1 pricing because it most closely replicates the options that exist today since it is technologically infeasible to bond DS1 special access services to provide more than 12 Mbps in capacity." *Id*. It "inquire[d] about replacement services above 12 Mbps based on comparisons to DS3 prices since the only viable TDM special

also must not be allowed to set the price of its lowest bandwidth IP service (at or above 1.5 Mbps) higher than the TDM DS1 price.[276] In addition to making the rules permanent, the Commission should apply the rules to all Ethernet wholesale services in buildings where wholesale alternatives are insufficient, instead of limiting their application only to situations involving discontinued TDM services;[277] otherwise ILECs will impede IP transition for the customers of competitive carriers by maintaining legacy inputs to avoid the requirement to provide an equivalent Ethernet service on comparable rates, terms, and conditions. Adopting this regulatory backstop, along with other measures recommended above, will help ensure that any rules adopted by the Commission to protect competition do not effectively sunset at the discretion of the ILECs and serve as a further check on unjustified ILEC rate increases.

The Commission has ample regulatory authority for this extension of the reasonably comparable IP-based wholesale access rule. Sections 201 and 202 authorize the Commission to take action to prevent the imposition of unjust and unreasonable rates,[278] as does the charge of Section 706 of the Telecommunications Act of 1996 to "encourage the deployment . . . of advanced telecommunications capability . . . by utilizing . . . price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market or other

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access option for delivering more than 12 Mbps service to a customer location is a DS3 service." *Id*.

[276] *See* Letter from Malena F. Barzilai, Senior Government Affairs Counsel, Windstream, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 13-5 and 12-353, WC Docket No. 05-25, RM-10593, at Attachment (filed Apr. 17, 2015).

[277] A competitor's wholesale offering must meet the same criteria as otherwise would be imposed on the ILEC. If this competitor's offering is discontinued in the future, the ILEC would be responsible for producing a wholesale alternative at that time, to help ensure competition is not undermined at the particular customer location.

[278] *See* 47 U.S.C. §§ 201-202.

regulating methods that remove barriers to infrastructure investment."[279] Indeed, the Commission can establish requirements for reasonably comparable IP inputs, including that Ethernet per-Mbps and lowest input prices cannot exceed those of comparable TDM services, using the same authority under Sections 201 and 202 pursuant to which it set the special access price cap rules in the first place.[280]

VIII. THE COMMISSION SHOULD REINSTATE STATUTORY AND REGULATORY OBLIGATIONS FOR SERVICES INCLUDED IN ITS PACKET FORBEARANCE ORDERS.

Because the data collected in this proceeding show ILECs' enduring control over the last-mile connections serving the vast majority of business customers in the nation gives them market power in the provision of packet-switched dedicated services, the Commission should reverse the forbearance it has granted to the largest ILECs from dominant carrier regulation of such services. Currently—in partial grants of forbearance petitions filed by AT&T, legacy Embarq, Frontier, and legacy Qwest, and through the "deemed grant" of forbearance petitions filed by Verizon and CenturyLink—the Commission has eliminated all dominant carrier regulation of the largest incumbents' then-existing and specified packet-switched special access services.[281] In the orders

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[279] *See* 47 U.S.C. § 1302(a). *See also Verizon v. FCC*, 740 F.3d 623, 637 (D.C. Cir. 2014) (affirming the Commission's interpretation of Section 706 a grant of regulatory authority).

[280] *See Policy and Rules Concerning Rates for Dominant Carriers*, Second Report and Order, 5 FCC Rcd. 6786, 6836 ¶ 401 (1990) ("[W]e conclude . . . that the LEC price cap plan adopted today is within our legal authority under the [Communications] Act, and that it will assure that LEC interstate rates remain just, reasonable, and non-discriminatory.") ("*LEC Price Cap Order*"), *aff'd WorldCom v. FCC*, 238 F.3d 449 (D.C. Cir. 2001). *See also Policy and Rules Concerning Rates for Dominant Carriers*, Report and Order, 4 FCC Rcd. 2873, 3306 ¶ 895 (1989) (concluding that because the price cap rules "neither establish the lawfulness of within-cap rates, nor prohibit the ruling of nonconforming tariffs," the Commission "need not follow the procedural requirements of Section 205(a)").

[281] *Qwest Packet Forbearance Order* at 12,284 ¶ 43; *Embarq and Frontier Packet Forbearance Orders* at 19,500 ¶ 39. *See also* Quiet Period Announced for the Centurylink Forbearance Petition, WC Docket No. 14-9, Public Notice (re. Feb. 27, 2015); CenturyLink's Petition for Forbearance from Dominant Carrier Regulation and the *Computer Inquiry* Tariffing

addressing the AT&T, legacy Embarq, Frontier, and legacy Qwest petitions (the "Packet Forbearance Orders"), the Commission declined to examine the ILECs' market power in the relevant product and geographic markets, although a market power analysis was its traditional method of evaluating whether to grant relief from dominant carrier regulation.[282]

Instead, the Commission granted forbearance largely on predictions that competition would develop in the future. The Commission surmised that forbearance "would make [each petitioner] a more effective competitor" for the services at issue[283] by "enabl[ing] [each petitioner] to respond quickly and creatively to competing service offers,"[284] and "anticipat[ed]" that this in turn would "increase even further the amount of competition in the marketplace" for packet-switched special access services.[285] It further held that "market forces" as well as "the Section 201 and 202 standards and the formal complaint process in Section 208 of the Act" and

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Requirement with Respect to its Enterprise Broadband Services Is Granted by Operation of Law, WC Docket No. 14-9, News Release (rel. Mar. 16, 2015) ("CenturyLink Forbearance News Release"); Verizon Telephone Companies' Petition for Forbearance from Title II and *Computer Inquiry* Rules with Respect to Their Broadband Services Is Granted by Operation of Law, WC Docket No. 04-440, News Release (rel. Mar. 20, 2006).

[282] *See Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor*, First Report and Order, FCC 80-629, 85 FCC 2d 1, 13-14 ¶¶ 54, 56 (1980) ("*Competitive Carrier First Report and Order*"); *Qwest Phoenix Forbearance Order* 8642-43 ¶ 37 (explaining the purpose of the traditional market power analysis). *See also Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier*, Order, FCC 95-247, 11 FCC Rcd. 3271 (1995) (undertaking a market power analysis to determine whether AT&T remained a dominant carrier requiring continued regulation in the interstate interexchange market).

[283] *AT&T Packet Forbearance Order* at 18,726 ¶ 35; *Qwest Packet Forbearance Order* at 12,282 ¶ 38. *See also Embarq & Frontier Packet Forbearance Orders* at 19,498 ¶ 34.

[284] *AT&T Packet Forbearance Order* at 18,725 ¶ 33; *Embarq & Frontier Packet Forbearance Orders* at 19,497 ¶ 32; *Qwest Packet Forbearance Order* at 12,280-81 ¶ 36.

[285] *AT&T Packet Forbearance Order* at 18,726 ¶ 35; *Embarq & Frontier Packet Forbearance Orders* at 19,498 ¶ 34; *Qwest Packet Forbearance Order* at 12,282 ¶ 38.

the Commission's implementing rules would "safeguard the rights of consumers."[286] Perhaps recognizing the weakness of its analysis, the Commission also noted that "[it] has the option of revisiting this forbearance ruling should circumstances warrant."[287]

Circumstances indeed warrant revisiting this forbearance and the forbearance "deemed granted" to Verizon through Commission inaction, because the anticipated development of robust competition in the market for packet-switched special access services has not materialized. As discussed in Section II.C, above, ~~***BEGIN HIGHLY CONFIDENTIAL***~~ Dr. Baker found that competition is not constraining ILEC rates to competitive levels, ~~***END HIGHLY CONFIDENTIAL***~~ which is not surprising since ILECs are the sole last-mile provider to a strong majority of buildings and one of only two in all but a fraction.

Today, under the Commission's decisions in the Packet Forbearance Orders and the "deemed" grants, the largest ILECs operate as if they are free to offer these packet-switched special access services at any prices and on any terms and conditions they choose.[288] Moreover,

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[286] *AT&T Packet Forbearance Order* at 18,726 ¶¶ 35-36; *Embarq & Frontier Packet Forbearance Orders* at 19,498 ¶¶ 34-35; *Qwest Packet Forbearance Order* at 12,282 ¶¶ 38-39.

[287] *AT&T Packet Forbearance Order* at 18,723 ¶¶ 28 n.120; *Embarq & Frontier Packet Forbearance Orders* at 19,495 ¶ 27 n.113. *See also Qwest Packet Forbearance Order* at 12,270 ¶ 17 n.69 ("[A]s the Commission has held, it has the option of revisiting a forbearance ruling in light of new facts."). *See also Ad Hoc Telecomms. Users Comm. v. FCC*, 572 F.3d 903, 911 (2009) (noting that the forbearance granted incumbents, including Verizon, "is not chiseled in marble…[and] the FCC will be able to reassess as they reasonably see fit based on changes in market conditions, technical capabilities, or policy approaches to regulation in this area"); *AT&T Packet Forbearance Order* at 18,732 ¶ 50 (recognizing the need to maintain regulatory parity for Verizon with respect to the scope of forbearance).

[288] As INCOMPAS has pointed out, these ILECs appear to have unilaterally applied forbearance beyond the scope granted. Letter from Karen Reidy, Vice President of Regulatory Affairs, INCOMPAS, to Marlene H. Dortch, Secretary, FCC, at 3, WC Docket No. 05-25 and RM-10593 (filed Dec. 1, 2015) ("INCOMPAS Ex Parte"). *See also* Section IX, *infra*.

the dangers associated with the Commission's deregulation of these packet-switched special access services without properly analyzing the market for those services have grown significantly over time. While DS1 and DS3 special access services continue to be critical and widely used, packet-switched special access services, such as Ethernet, increasingly are replacing them, and ILECs are imposing unreasonably high wholesale Ethernet prices and engaging in anticompetitive conduct that is driving competition out of the business services marketplace.

In considering whether forbearance should be reversed, Commission precedent establishes that the Commission should act if one or more of the Section 10(a) criteria is no longer met. The data collected in this proceeding clearly demonstrate that, under the prevailing "traditional market power framework" that the Commission endorsed in the *Qwest Phoenix Order* in 2010,[289] there is insufficient competition in the dedicated services markets and that enforcement of the regulation is "necessary to ensure that the telecommunications carrier's charges, practices, classifications, or regulations are just, reasonable, and not unjustly or unreasonably discriminatory."[290] Forbearance impedes rather than "promote[s] competitive market conditions."[291] Thus, all forbearance from dominant carrier regulation of packet-switched services should be reversed.

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[289] *See Qwest Phoenix Forbearance Order* at 8646-47 ¶ 42; Baker Declaration ¶¶ 7, 46-48, 51-52.

[290] *Qwest Phoenix Forbearance Order* at 8671 ¶ 92. *See also* 47 U.S.C. § 160(a).

[291] 47 U.S.C. § 160(b).

IX. IF PRIOR PACKET FORBEARANCE DECISIONS ARE NOT REVERSED, THE COMMISSION AT LEAST SHOULD REAFFIRM THE LIMITED SCOPE OF THE DECISIONS AND CLARIFY THE IMPLICATIONS FOR REGULATION OF SPECIAL CONSTRUCTION AND ETHERNET SERVICES.

As discussed in Section VIII, the Commission's Data Request responses shows that the Commission should rescind its prior grants of forbearance from ex ante price regulation of certain packet-based services. But if such forbearance is not eliminated, the Commission, at a minimum, should reiterate that the ILECs' prior packet forbearance petitions sought, and the Commission granted, forbearance from certain regulatory requirements that was limited to services that were (a) *existing* before forbearance was granted and (b) *specified* in the petition. Moreover, the Commission should also conform the scope of Verizon's "deemed granted" with that affirmatively granted to other carriers. The Commission also should specify implications of these important limits, especially with respect to regulation of special construction and Ethernet services.

The Commission never granted any ILEC forbearance with respect to regulation of future services that did not exist at the time of the forbearance decision, whether or not similar to services specified in a petition. As the Commission explained the *AT&T Packet Forbearance Order*:

> Our forbearance grant is *restricted to broadband services that AT&T currently offers and lists in its petitions*. We believe that limiting our forbearance grant to the identified services that are currently offered is consistent with our analysis under the forbearance framework. We do not know the precise nature of such future services, including how, and to what customers, they would be offered, information that we would need to evaluate whether they are sufficiently similar to the services for which we grant forbearance here. Similarly, we do not know the competitive conditions associated with such potential services. We thus are unable to conclude on the record here that the section 10 criteria are met for such services. We therefore cannot find that dominant carrier regulation will not be necessary to ensure that the charges, practices, classifications, and regulations in connection with those as yet unoffered services will be

> just, reasonable, and not unreasonably discriminatory within the meaning of section 10(a)(1).[292]

The orders granting limited forbearance to CenturyLink predecessors (Qwest and Embarq) and Frontier were similarly limited to existing services.[293]

The Verizon and CenturyLink petitions that were granted by operation of law are likewise limited by the scope of the requested forbearance at the time the petition was granted by operation of law. As the Commission has recognized, the forbearance Verizon had obtained was limited because "Verizon restricted its forbearance request to ten of its then-existing telecommunications services offerings."[294] Similarly, in CenturyLink's recent petition, it sought "relief only for the same categories of services covered by the other Enterprise Broadband Forbearance Orders," i.e., for "(1) . . . *existing* non-TDM-based, packet-switched services capable of transmitting 200 kbps or greater in each direction; and (2) . . . *existing* non-TDM-based optical transmission services."[295] The scope of forbearance in these cases is thus defined entirely by what services the petitioner offered at the time and what it listed in its petition (or subsequent ex parte narrowing the petition), without the Commission setting forth its analysis and determination on whether the Section 10(a) factors have been satisfied with respect to any

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[292] *AT&T Packet Forbearance Order* at 18,728 ¶ 40 (emphasis added).

[293] *Qwest Packet Forbearance Order* at 12,284 ¶ 43 ("Our forbearance grant is restricted to broadband services that Qwest currently offers and lists in its petition."). *See also Embarq and Frontier Packet Forbearance Orders* 19,500 ¶ 39 (same).

[294] *AT&T Packet Forbearance Order* at 18,714 ¶ 14 n.59. *See also* Verizon Packet Forbearance Petition, *as amended by* Verizon Forbearance Ex Parte at 3 ("With respect to both categories [of services for which forbearance was sought,] *Verizon offers these various services* both to enterprise customers on a retail basis, and to other carriers on a wholesale basis.") (emphasis added). *See also id.* ("Attachment 1 contains a more detailed description of *the services that Verizon offers* that qualify under each of these two categories.") (emphasis added).

[295] CenturyLink Petition for Forbearance at 7, 9 (emphases added). *See also id.* at Attachment 1 (listing specific CenturyLink services for which forbearance was sought).

particular service. In interpreting a document that was drafted unilaterally, such as a tariff, the Commission has resolved ambiguities against the drafter.[296]

However, as INCOMPAS recently set forth, at least one large ILEC, and possibly others, have unilaterally treated services *not* provided at the time of forbearance as nonetheless subject to deregulation.[297] INCOMPAS showed that AT&T's current "AT&T Switched Ethernet Service" offers capabilities that are different from the special access Ethernet service that it offered at the time forbearance was granted and that it listed in the forbearance petition.[298] Likewise, to the extent that a carrier offers a service to new categories of customers, such as small- and medium-sized businesses and other low-bandwidth users who require different (but not necessarily more robust) functionalities, such a service is new and different from a predecessor service that employed similar technology.[299]

And even if a service were in existence at the time of forbearance, the Commission's forbearance orders do not relieve the packet service from regulatory obligations unless that service also was expressly specified for requested relief in the ILEC's forbearance petition. It appears not all then-existing Ethernet services meet this second requirement. In AT&T's and BellSouth's forbearance petitions, for example, the Ethernet services addressed by the petitions "typically operate[] at speed in the range of 50 Mbps to 10 Gbps" or "operate[] from mid-band to higher speeds in the range of 50 Mbps to 10 Gbps," and not at other speeds.[300] In its petition,

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[296] *See Halprin, Temple, Goodman, & Sugrue*, Memorandum Opinion and Order, FCC 98-297, 13 FCC Rcd. 22,568, 22,574 ¶ 9 (1998) ("[W]e must construe any ambiguities in tariffs against the filing carrier.").

[297] *See* INCOMPAS Ex Parte at 3.

[298] *See id.* at 3-5.

[299] *See* Windstream Sept. 24, 2015 Ex Parte at 5-6.

[300] Petition of AT&T Inc. for Forbearance Under 47 U.S.C. § 160(c) from Title II and *Computer Inquiry* Rules with Respect to Its Broadband Services at Appendix A, WC Docket No. 06-

Frontier used the same language as BellSouth to describe its Ethernet services subject to the petition,[301] and Qwest (now CenturyLink) listed in its petition just two specific types of Ethernet services: "Metro Optical Ethernet" and "Ethernet Ports over SONET."[302]

To clarify the limited scope of its prior packet forbearance orders, the Commission should put carriers on notice that any current (or future) Ethernet services that either (1) were not specifically listed in the forbearance petition or (2) were not offered at the time forbearance was granted are still subject to tariffing and rate regulation, in the absence of Commission actions to grant additional forbearance. As INCOMPAS explained, the *services* offered today may have functional differences for the customer that make them different from the services offered when forbearance was granted, even if the two sets of services share the same technical attributes in their respective underlying architectures.

Moreover, as INCOMPAS and Windstream have previously explained, no ILECs have sought, and thus none has obtained, forbearance from requirements to tariff special construction, and from requirements that special construction charges be just and reasonable, and not

125 (filed July 13, 2006); Petition of BellSouth Corporation for Forbearance Under Section 47 U.S.C. § 160(c) From Title II and *Computer Inquiry* Rules With Respect to Its Broadband Services at Attachment A, WC Docket No. 06-125 (filed July 20, 2006).

[301] Petition of the Frontier and Citizens ILECs for Forbearance Under Section 47 U.S.C. § 160(c) from Title II and *Computer Inquiry* Rules with Respect to Their Broadband Services at Attachment A, WC Docket No. 06-147 (filed Aug. 4, 2006).

[302] Qwest Petition for Forbearance Under 47 U.S.C. § 160(c) from Title II and *Computer Inquiry* Rules with Respect to Broadband Services at Attachment A, WC Docket No. 06-125 (filed Sept. 12, 2007). CenturyLink's most recent petition, which was granted by operation of law on March 16, 2015, did not seek additional forbearance with respect to the former Qwest ILECs. *See* CenturyLink Petition for Forbearance at Attachment 1. *See also* Quiet Period Announced for the Centurylink Forbearance Petition, WC Docket No. 14-9, Public Notice (re. Feb. 27, 2015); CenturyLink Forbearance News Release.

unreasonably discriminatory.[303] Unjustified special construction charges have become an increasingly prevalent way for large ILECs to increase the price of last-mile access, particularly for Ethernet services, and undermine competition for retail services to end users.[304] In particular, ***** BEGIN HIGHLY CONFIDENTIAL ***** [redacted] ***** END HIGHLY CONFIDENTIAL *****[305] The Commission has long recognized the potential of ILECs to use special construction to engage in impermissible unreasonable discrimination, and to attempt to avoid the "basic common carrier responsibility" for "planning and investing in facilities" in response to reasonable requests.[306]

At least one large ILEC has sought unilaterally to expand the scope of the forbearance granted by asserting that the construction of facilities—which the Commission has long recognized as a common carrier service[307]—should be treated as effectively a lesser included

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303 *See* Letter from John T. Nakahata, Counsel to INCOMPAS, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5, PS Docket No. 14-174, WC Docket No. 05-25, and RM-10593 (filed May 27, 2015) (describing the Commission's ample authority to regulate ILEC special construction practices regardless of any forbearance granted for packet-based services) ("INCOMPAS May 27, 2015 Ex Parte"); Letter from Malena Barzilai, Senior Government Affairs Counsel, Windstream, to Marlene H. Dortch, Secretary, FCC, at 2, GN Docket No. 13-5, PS Docket No. 14-174, WC Docket No. 05-25, and RM-10593 (filed Oct. 6, 2015).

304 *See* Windstream June 8 Ex Parte at 3 (noting that special construction assessments often can cause a competitive carrier to lose existing and new retail customers and estimating the impact of such lost sales for Windstream in particular). *See also id.* at Attachment B (providing Windstream data on the number and amounts of special construction quotes, as well as the number and amounts accepted, for Q4 2014 and Q1 2015).

305 Windstream Declaration ¶ 102.

306 *Investigation of Access and Divestiture Related Tariffs*, Memorandum Opinion and Order, FCC 84-51, 97 FCC 2d 1082, 1212-1213 (1984).

307 *See Special Construction of Lines and Special Service Arrangements Provided by Common Carriers*, Notice of Proposed Rulemaking, FCC 84-146, 97 FCC 2d 978, 981 ¶ 4 (1984) ("This proceeding seeks to modify *our traditional common-carrier treatment of special*

service to specified Ethernet services.[308] However, neither this ILEC nor any other sought forbearance for special construction, and at least one ILEC continues to file a standalone tariff for special construction, further indicating that special construction is a separate and distinct service.[309] Thus, the Commission should affirm that special construction is not among the specifically identified packet-switched services for which forbearance was granted or deemed granted and thus that all special construction rates remain subjection to Section 201 and 202. In addition, the Commission should adopt the policy principles proposed by INCOMPAS and Windstream to ensure that the ILECs' application of special construction charges complies with the requirements of Sections 201 and 202.[310]

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construction of lines . . . .") (emphasis added). Though the Notice of Proposed Rulemaking had proposed removing special construction from the common carrier regime, the proceeding went dormant and was ultimately terminated. Thus, Section 202(a) continues to apply to ILECs' special construction charges.

[308] *See* Letter from Curtis L. Groves, Assistant General Counsel, Federal Regulatory and Legal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, at 2, GN Docket No. 13-5, WC Docket No. 05-25, RM-10593 (filed Oct. 29, 2015).

[309] *See, e.g.*, Verizon FCC Tariff No. 21, Special Construction, http://www.verizon.com/tariffs/Sections.aspx?docnum=FCCIEA21&type=T&sch=N&se=Y&att=N&typename=IT&tims_status=E&entity=I*.

[310] *See* Letter from Malena Barzilai, Senior Government Affairs Counsel, Windstream, to Marlene H. Dortch, Secretary, FCC, at 2-6, GN Docket No. 13-5, WC Docket No. 05-25 and RM-10593 (filed Oct. 6, 2015); INCOMPAS May 27, 2015 Ex Parte. Even if special construction were not separate from Ethernet services that the ILEC provides over the constructed fiber, those facilities could still be used by competitive carriers to provide price-regulated TDM services, for which the constructing ILEC would have a corresponding duty to provide. The ILEC should not be able to evade the price-cap regulatory regime by shifting onto a competitive carrier the construction costs for facilities that can be used to fulfill the ILEC's common carrier duty to provide DS1 and DS3 special access services in addition to packet-switched services. *See id.* at 6.

X. THE DATA REQUEST RESPONSES SUPPORT TARGETED PRICE CAP RETAIL AND WHOLESALE RATE REGULATION FOR DEDICATED SERVICES TO BUILDINGS LACKING SUFFICIENT COMPETITION.

The data collected in this proceeding show that the Commission needs to reevaluate and rework the hodge-podge of a pricing regime that applies to the large ILECs' provision of both TDM-based and Ethernet special access services. Since 1991 special access generally has been subject to price cap regulation,[311] although the FCC did not establish a separate price cap basket for special access until 2000.[312] Price cap carriers have obtained varying levels of pricing flexibility from this regulation for TDM-based special access services in many areas where competitive "triggers" were met.[313] In 2012, the Commission suspended these pricing flexibility rules "in light of . . . widespread agreement across industry sectors that these rules fail to accurately reflect competition in today's special access markets" but let pricing flexibility continue where it had already been granted.[314] At the same time, in the years between 2006 and 2015, the large ILECs received, through Commission decisions and "deemed" grants,

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311 *See LEC Price Cap Order* at 6818-20 ¶¶ 257-59. Most small ILECs elected to remain subject to rate-of-return regulation.

312 *See Access Charge Reform*, Sixth Report and Order in CC Docket Nos. 96-262 and 94-1, Report and Order in CC Docket No. 99-249, Eleventh Report and Order in CC Docket No. 96-45, FCC 00-193, 15 FCC Rcd. 12,962, 13,033 ¶ 172 (2000), review granted in part, decision reversed in part on other grounds by *Texas Office of Public Utility Counsel v. FCC*, 265 F.3d 313 (5th Cir. 2001).

313 *See Access Charge Reform*, Fifth Report and Order and Further Notice of Proposed Rulemaking, FCC 99-206, 14 FCC Rcd. 14,221, 14,261 ¶¶ 77-83 (1999).

314 *See 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*, WC Docket No. 05-25, RM-10593, Report and Order, FCC 12-92, 27 FCC Rcd. 10,557, 10,558 ¶ 1 (2012) ("*Pricing Flexibility Freeze Order*").

forbearance from most ex ante pricing regulation with respect to specified and then-existing packet-switched special access services, such as certain Ethernet services.[315]

The data demonstrate that this overly complex regime lacks any rational basis. While forbearance was granted with respect to Ethernet largely on predictions that competition would develop in the market,[316] ~~***BEGIN HIGHLY CONFIDENTIAL***~~ in fact, the data reflect that ILECs do not face sufficient competition to discipline dedicated services prices, including for Ethernet, at the vast majority of business locations. ~~***END HIGHLY CONFIDENTIAL***~~[317] ~~***BEGIN HIGHLY CONFIDENTIAL***~~ The data also show that the combination of price caps and pricing flexibility has not worked as intended, as it has permitted ILECs to maintain rates above competitive levels in most business locations.~~***END HIGHLY CONFIDENTIAL***~~[318]

As discussed in Section II.C, ~~***BEGIN HIGHLY CONFIDENTIAL***~~ Dr. Baker finds that the data "shows that ILEC retail prices tend to decline as the number of rivals selling dedicated services increases."~~***END HIGHLY CONFIDENTIAL***~~[319] He concludes, "Given the structure of dedicated service markets, ILECs are likely able to exercise market power in most markets, and would be expected to charge prices above competitive levels unless prevented by regulation."[320] ~~***BEGIN HIGHLY CONFIDENTIAL***~~ Dr. Baker further

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315 *See supra* n.233.

316 *See* nn.284-288 and accompanying text.

317 *See generally* Baker Declaration.

318 *See id.*

319 Baker Declaration ¶ 8.

320 *Id.* ¶ 7.

emphasizes that the regression results "do *not* demonstrate that ILECs lack market power for dedicated services."~~***END HIGHLY CONFIDENTIAL***~~[321]

In this situation, the appropriate course is for the Commission to reinstate the regulation necessary to constrain ILEC dedicated services prices to competitive levels, at least in the absence of three or more in-building competitors to the ILEC at the same location. The Commission should do this for both TDM and Ethernet special access services, as the ILECs' predominance in the number of buildings for which they are the sole provider, or just even one of two, applies irrespective of whether the services offered are TDM or packet-based. As the Commission has long noted, price cap regulation is appropriate for dominant carriers possessing market power, to "harness the profit-making incentives common to all businesses to produce a set of outcomes that advance the public interest goals of just, reasonable, and nondiscriminatory rates, as well as a communications system that offers innovative, high quality services."[322] Furthermore, the Commission has expressed that it is essential that the special access rules "reflect the state of competition today and promote competition, investment, and access to services used by businesses across the country," and that regulatory action is taken where the data "demonstrate that competition is not sufficient to discipline the marketplace."[323]

Within the general price cap framework discussed above, the Commission should consider deregulatory measures, such as pricing flexibility, only at individual buildings where the data show that there are at least three non-ILEC competitors with their own last-mile fiber facilities supporting dedicated services. The Commission, in suspending the pricing flexibility

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[321] *Id.* ¶ 8.

[322] *LEC Price Cap Order* at 6787 ¶ 2.

[323] *See Data Collection Order* at 16,341 ¶¶ 56-57.

rules before the Data Request, noted that it is clear that competitive entry occurs in much more granular areas than it had initially predicted.[324] The data collected in this proceeding reinforce that fact; as Windstream has noted in its declaration,[325] competitors make last-mile buildout decisions on a location-by-location basis. The record also demonstrates that, consistent with the technologies capable of supporting dedicated services reliably across a wide range of locations, best efforts providers—whether offering best efforts services over coaxial, HFC, or fiber connections—should not be included in a dedicated services markets analysis.[326] Thus, the Commission should, in considering any deviations from the general price cap regime, examine the presence of fiber-based competition supporting dedicated services on a building-by-building basis.

With regard to the necessary level of competition, only the in-building presence of at least three non-ILEC dedicated services competitors with their own last-mile fiber facilities is sufficient to ensure that the elimination of regulation will not permit service providers to raise their rates to supracompetitive levels. As the Commission noted in the *Qwest Phoenix Forbearance Order*, in deeming special access regulation necessary even in a market in which Qwest had substantial competition from the incumbent cable operator: "[E]conomic theory holds that firms operating in a market with two or a few firms (i.e., an oligopoly) are likely to recognize their mutual interdependence and . . . in many cases may engage in strategic behavior, resulting in prices above competitive levels."[327] Similarly, Commission staff found that the merger of AT&T and T-Mobile would cause competitive harm in the mobile wireless market

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[324] *See, e.g.*, *Pricing Flexibility Freeze Order* at 10,582 ¶ 48.

[325] Windstream Declaration ¶ 4.

[326] *See* Section II.A, *supra.*

[327] *Qwest Phoenix Forbearance Order* at 8637 ¶ 30.

even though it would leave three nationwide competitors.[328] Staff noted that post-merger AT&T would still have a "unilateral incentive to raise price . . . or otherwise exercise market power," because it believed that even the presence of Sprint and Verizon Wireless might not act as a competitive check on AT&T.[329] ~~***BEGIN HIGHLY CONFIDENTIAL***~~ Dr. Baker's findings similarly support requiring the presence of at least three in-building competitors offering dedicated services. ~~***END HIGHLY CONFIDENTIAL***~~ Accordingly, the Commission should take care, before granting any relief to the ILEC from price cap regulation, to ensure the in-building presence of at least three non-ILEC competitors using their own last-mile facilities for dedicated services.

XI. CONCLUSION

The Commission is at a crossroads. To preserve a robust array of choices for the complex communications solutions that large, medium, and small businesses, federal, state, and local governmental agencies, and nonprofits need to run their enterprises and deliver their products and services, the Commission must take action. If the large ILECs have their way, they will use their market power over dedicated connections in the last mile—for which they are the sole supplier to the vast majority of buildings—to squeeze out their competition. To stop this, the Commission must take steps to ensure that the large ILECs cannot price their wholesale services—especially Ethernet—below their actual retail prices, and that they provide those wholesale services at discounts that reflect the true and full cost savings that they achieve from large volume and long-term wholesale arrangements. This can be accomplished through

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[328] *See Applications of AT&T Inc. and Deutsche Telekom AG For Consent to Assign or Transfer Control of Licenses and Authorizations*, Staff Analysis and Findings, WT Docket No. 11-65, DA 11-1955, 26 FCC Rcd. 16184, 16190, 16206-07, 16,211 ¶¶ 5, 36, 47 (Wireless Telecomms. Bur. 2011).

[329] *Id.* at 16,211 ¶ 48.

enforcing the Act's mandatory wholesale discounts requirement, by reinstating and reinvigorating price cap regulation for ILEC dedicated services, by adopting measures that prohibit ILECs from imposing extra costs on CLECs when migrating to IP, and by protecting the ability of CLECs to obtain access to unbundled DS1 and DS3 capacity loops, even as communications transition from copper to fiber facilities and/or from TDM to IP transmissions. Each of these elements is a critical step to preserving choices and competition for the complex communications solutions that business, governments, and nonprofits all need.

Respectfully submitted,

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Attachment A

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
	)	
Special Access for Price Cap Local Exchange Carriers	)	WC Docket No. 05-25
	)	
	)	
AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services	)	RM-10593
	)	
	)	
Technology Transitions	)	GN Docket No. 13-5

DECLARATION OF DAN DEEM, DOUGLAS DERSTINE, MIKE KOZLOWSKI, ARTHUR NICHOLS, JOE SCATTAREGGIA, AND DREW SMITH

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January 27, 2016

DECLARATION OF DAN DEEM, DOUGLAS DERSTINE, MIKE KOZLOWSKI, ARTHUR NICHOLS, JOE SCATTAREGGIA, AND DREW SMITH

Dan Deem, Douglas Derstine, Mike Kozlowski, Arthur Nichols, Joe Scattareggia, and Drew Smith hereby declare and state as follows, under penalty of perjury:

I. BACKGROUND

1. Declarants and bases for their opinions:

- Dan Deem: My name is Dan Deem. My business address is 4001 N. Rodney Parham Road, Little Rock, AR 72212. I am Vice President of CLEC operations. In that capacity, I am responsible for overall CLEC operations at Windstream. I have worked in the communications industry for 30 years. Prior to joining Windstream, I led the customer service organizations at Allied Wireless Communications Corp. In my 30 years in the telecom industry, I have worked in various rolls in finance and process improvements. I am attesting to paragraphs 1, 33, 37-42, and 90.

- Douglas Derstine: My name is Doug Derstine. My business address is 401 Plymouth Road, Suite 400, Plymouth Meeting, PA 19462. I am President of Windstream's Market Development Group. In this capacity, I am responsible for building out and expanding Windstream last-mile customer access through both fiber and fixed wireless access methodology. Prior to assuming this role, I was President of Windstream's ISG group for 3 years where I was responsible for Windstream's CPE Business Unit. I joined Windstream in 2011 as part of the PAETEC acquisition. While at PAETEC, I served as President of the Carrier Group as well as President of the Managed Service/CPE business. Prior to PAETEC, I was President/CEO/Owner of ALL Acquisition Corp. DBA American Long Lines. I have more than 20 years of executive-level responsibilities within the telecommunications field. I am attesting to paragraphs 1, 4, 44, 48-49, and 52.

- Mike Kozlowski: My name is Mike Kozlowski. My business address is 1200 17th Street, Suite 1050, Denver, CO 80202. I am Vice President of Product Management in the Enterprise Business Unit at Windstream. In that capacity, I am responsible for defining the data, transport, and managed services to address the needs of the mid-market and large enterprise customer service needs. Prior to assuming that role, I was Vice President of Product Management at Integra. I joined Windstream in August 2015 and have more than 20 years of experience within the global telecommunication space, holding leadership positions at Level 3, 360Networks, and Integra. I am attesting to paragraphs 1-2, 7-29, 45, 47, 50-51, 86, and 88-89.

- Arthur Nichols: My name is Arthur Nichols. My business address is 301 N. Main Street, #5000, Greenville, SC 29601. I currently serve as Vice President – Architecture and Technology for Windstream. I am responsible for Windstream's network evolution, product development, and technical strategy. Prior to assuming that role in May 2015, I was a Director – Architecture and Technology at Windstream. I joined Windstream in

February 2010, following its acquisition of NuVox, where I had served in similar leadership roles since 2002. I am attesting to paragraphs 1, 61-63, 65, 79, and 99.

- Joe Scattareggia: My name is Joe Scattareggia. My business address is 58 S. Service Road, Suite 115, Melville, NY 11747. I am Senior Vice President of Carrier Sales at Windstream. In that capacity, I am responsible for selling data and transport services to U.S.-based carriers, cable providers, and content companies. The carrier sales team is responsible for pre and post sales and sales support and works closely with the cross functional support teams to meet carriers' network needs. Prior to assuming that role, I was Vice President of Strategic Sales for the carrier business. I joined Windstream in October 2013 and have more than 25 years of leadership experience within the global telecommunication space, having held senior positions at AT&T, Viatel, Arbinet, and Calltrade. I am attesting to paragraphs 1, 3, 34-36, and 43.

- Drew Smith: My name is Drew Smith. My business address is 4001 N. Rodney Parham Road, Little Rock, AR 72212. I am Senior Vice President – Access Management and Carrier Relations for Windstream. I am responsible for implementing network expansion projects, consolidating the access network, and accelerating the transition from TDM to IP. Prior to assuming my current role in October 2015, I held various positions in the access organization for several years and before that had worked in accounting, finance, engineering, and service delivery capacities since joining Windstream in 2008. I am attesting to paragraphs 1, 5-6, 30-32, 46, 53-60, 64, 66-78, 80-88, 91-98, and 100-105.

2. Windstream is a communications service provider with interests split relatively evenly between incumbent and competitive carrier operations. It is both the fifth largest incumbent local exchange carrier ("ILEC") and one of the largest competitive local exchange carriers ("CLECs") in the nation. Windstream provides advanced communications and technology solutions, including managed services and cloud computing, to hundreds of thousands of business, government, and nonprofit locations throughout the continental United States. Windstream also provides broadband, voice, and video services to residential consumers across 18 states, as well as wholesale access to competing providers.

3. Windstream's ILEC operations are subject to FCC price cap regulation for all interstate access services, including special access. Windstream has attained pricing flexibility for specified TDM special access services in five of its markets but has not obtained forbearance with respect to any of its ILEC packet-switched special access services.[1]

[1] In 2008 Windstream obtained Phase I pricing flexibility for dedicated transport and special access services in its ILEC territories in the Ashland, Kentucky Metropolitan Statistical Area; Phase I pricing flexibility for channel terminations between its central offices and end user customer premises in its ILEC territories in the Lexington, Kentucky MSA; and Phase II pricing flexibility for dedicated transport and special access services in its ILEC territories in the Lexington, Kentucky MSA. In 2012 Windstream obtained Phase I pricing flexibility in its ILEC territories in the Lincoln, Nebraska and Tulsa, Oklahoma Metropolitan Statistical Areas (MSAs), and Phase II pricing flexibility in its ILEC territories in the Houston, Texas MSA. This pricing flexibility covers dedicated transport, special access, and channel terminations between its central officers and end user customer premises.

4. Like other communications providers, to furnish its finished business communications services to its retail customers, Windstream requires the ability to transmit traffic over the last mile to the customer location. Outside of its ILEC service areas, Windstream owns or can build its own last-mile facilities only to select customer locations. Windstream cannot feasibly build such facilities to the vast majority of business locations, including the vast majority of its customers' business locations.

5. Where it does not have its own last-mile connections and associated local area transport to customer locations, Windstream's ability to provide a competitive option to the business service customers usually depends on its access to one or more of the following wholesale inputs: unbundled DS0 loops, unbundled DS1 and DS3 capacity loops, and leased special access (both TDM and Ethernet).

6. Windstream's purchases of unbundled network elements ("UNEs") and special access services are a significant proportion of Windstream's overall costs of providing CLEC business services. Increases in the costs of these wholesale inputs can therefore significantly drive up the prices at which Windstream must sell its services or make offering services to certain customers cost-prohibitive.

II. WINDSTREAM'S RETAIL BUSINESS OFFERINGS

7. Windstream's retail business services roughly align with two distinct categories of markets based on its customers' needs: Dedicated Services and Best Efforts Services.

8. Customers purchasing Dedicated Services solutions commonly need significant network availability and performance assurances. These assurances may be provided expressly or expected from the dedicated nature of the transmission service. Customers of Dedicated Services may want the ability to prioritize traffic among different Quality of Service ("QoS") levels. These customers may purchase additional services from Windstream as part of an overall communications solution. While many larger enterprise customers require Dedicated Services, smaller customers with enhanced needs may also purchase these offerings.

9. By contrast, customers purchasing Best Efforts Services, or functionally shared services, require little or no network uptime guarantees and no performance guarantees. These offerings are usually, though not exclusively, purchased by small and medium businesses.

10. Windstream recently began realigning its business units roughly along the lines of Dedicated Services and Best Efforts Services, with its Enterprise business unit focusing on customers with complex solutions that generally need Dedicated Services with higher levels of performance and traffic prioritization requirements, and with its small and medium business ("SMB") unit focusing on business service customers with less complex needs.

III. DESCRIPTION OF THE DEDICATED SERVICES MARKETS

11. Businesses, government entities, and nonprofits purchasing dedicated connections usually share common characteristics that drive what they look for in their communications services. The size, geographic distribution, and organizational needs of these customers directly affect what they seek in the market.

12. Within the Dedicated Services markets, individual customers may have different needs, including levels of bandwidth and quality of service characteristics. While Dedicated Services customers may use retail TDM special access services, they frequently seek Ethernet services as part of the finished product they receive.

A. Examples of Dedicated Services Customers

13. The Dedicated Services markets cover a range of customers based on business size, number of locations, and monthly spends on communications services. All of these metrics may act as proxies to some degree for the complexity of the communications services that customers are likely to require.

14. The lower-middle tier of Dedicated Services customers is largely comprised of businesses that typically have between 25 and 100 employees, up to ten locations, and monthly communications spends ranging from $1,000 to $5,000. Windstream customer examples include a credit union, law firms based with one or two locations, and a healthcare entity operating three sites in the same state. However, there are some even smaller business service customers that require Dedicated Services, such as a single location customer that supplies a database for other companies' use. The need for Dedicated Services at this tier is especially common for financial, health care, and government institutions that require higher levels of reliability, performance, and security.

15. The middle tier of Dedicated Services customers includes entities that typically have between 100 and 500 employees, and monthly communications spends of between $5,000 and $25,000. A Windstream customer that has both a main center and multiple, much smaller satellite locations to reach is an example of an entity at this spending level. So too is a military post requiring communications services for more than 10 sites. For this middle tier, four verticals that require complex solutions collectively represent the vast majority of the market: government/education, financial, retail services, and healthcare.

16. The upper-middle tier of Dedicated Services customers includes businesses and nonprofits with more than 500 employees and between $25,000 and $100,000 (and potentially higher) monthly communications spends. These Windstream customers encompass a public school district serving tens of thousands of students and a government entity operating thousands of facilities nationwide. Other such Windstream customers include regional bank chains and a regional hospital network.

B. Need for Higher Performance Levels and Tailored Support Drive Dedicated Services Purchases

17. Integrated networks. Dedicated Services customers often need dependable, sophisticated integration of their communications and IT networks—including not just data transmission capacity but also equipment, network security, and remote management of network infrastructure, among other things.

18. Performance requirements. For reliability and to effectively run applications for their business solutions, Dedicated Services customers generally require 99.99 percent or better uptime. Dedicated Services customers also have enhanced requirements for performance, such

as with respect to jitter (or, in the Ethernet context, inter-frame delay variation), packet latency (or one-way frame delay), packet loss, and mean time to repair. Dedicated Services agreements commonly commit the service provider to network availability and performance levels in Service Level Agreements ("SLAs"), with financial penalties if those commitments are not met.

19. Customer traffic prioritization. Dedicated Services customers often use Multiprotocol Label Switching ("MPLS") to create a multi-node virtual private network that permits prioritization of packets within the customer's Virtual Private Network ("VPN"). To support MPLS as a protocol, Windstream needs to use a routed network. Any customer requiring MPLS will require QoS as a feature. QoS, which involves prioritizing various types of traffic, is itself a feature that requires a routed and non-shared connection. A standard MPLS service supports a minimum of four and sometimes six classes of service (e.g., voice class, business critical data like point of sale solutions, or Internet traffic). MPLS helps make it possible for Windstream to provide meaningful SLAs.

20. Managed solutions. Dedicated Services customers also regularly require managed network solutions like Managed Security and collaboration tools. Dedicated Services customers in the middle tier (i.e., monthly spend between $5,000 and $25,000) often require disaster recovery and unified communications as a service combining various modes of communication including telephony, messaging, and video conferencing. Dedicated Services customers in the upper-middle tier utilize a broader set of data center and cloud services.

21. Individualized service design and support. Dedicated Services customers require more tailored service offerings than do Best Efforts Services customers. Windstream has used a strategy of bulking up its sales support technical staff to engage with business customers and business customer prospects about how best to solve a particular customer's issues with targeted offerings. In addition, Dedicated Services customers often expect ongoing customer service support from a dedicated account representative, rather than through a call center.

22. Preference for a single supplier. Multilocation customers of Dedicated Services generally prefer to deal with a single firm supplying those services to all their locations (whether the last-mile facilities are owned or leased by the retail provider).

23. Some single location and lower expenditure level customers. While Dedicated Services customers tend to be multilocation customers, some single-location customers also need this type of service. Similarly, while Dedicated Services customers tend to be larger customers in terms of overall monthly telecommunications spend, some smaller customers with specialized needs also fall into this category. Dedicated Services customers especially tend to include financial institutions, health care providers, professional services, government, and educational institutions—all of which have significant uptime and performance requirements.

24. Customer willingness to pay. There is a sizable gap between the per-Mbps price of Dedicated Services versus Best Efforts Services—which suggests that certain customers place a separate, significantly higher value on the attributes of dedicated connectivity; otherwise, Dedicated Service customers already would select Best Efforts where offered. A retail pricing survey conducted for Windstream by a third-party research firm showed the price per-Mbps per-month for Best Efforts Services offered by local exchange carriers and cable companies

BEGIN CONFIDENTIAL [redacted] ***END CONFIDENTIAL*** A sustained price increase for Dedicated Services, therefore, will not cause customers of Dedicated Services to switch to Best Efforts Services where offered. Moreover, the wide differential in per-Mbps price for various tiers of Dedicated Services suggests that, absent competition from additional providers using dedicated connectivity, a provider to a building can raise and sustain prices for lower bandwidth Dedicated Services relatively unconstrained by the lower per-Mbps prices of its own higher bandwidth Dedicated Services. Customers will not pay a higher overall price and purchase bandwidth they do not need (and cannot resell) just to lower their per-Mbps cost.

IV. COMPETITORS IN THE DEDICATED SERVICES MARKETS

25. Providers and potential providers (other than service resellers) of Dedicated Services vary depending on the geographic locations being served, as well as on the willingness of last-mile connectivity owners to offer wholesale access at reasonable rates that enable a sufficient margin. Dedicated Services providers include the large ILECs, such as AT&T, Verizon, CenturyLink, Frontier (using copper or fiber connections), and their CLEC affiliates (which may lease dedicated last-mile inputs from other providers); CLECs like Level 3, XO, Integra, and Windstream's CLEC business (using fiber in their own last-mile connections or leasing dedicated last-mile inputs); and in some areas, cable companies like Comcast, Charter, and Time Warner Cable (with dedicated fiber connections to individual customer locations or leasing dedicated last-mile inputs from other providers).

26. All such potential providers to a given business require dedicated last-mile connectivity to the customer's building. In the substantial majority of buildings, there is only one owner of a dedicated last-mile connection, usually a large ILEC.

27. For another provider to compete for a Dedicated Services customer at a location served only by an ILEC, the competitive provider would necessarily either build its own fiber last-mile connection or lease dedicated connectivity from the incumbent. Thus, while there could be multiple companies offering comparable retail services to Dedicated Services customers, the actual existence of competition for any given customer usually depends on competitive providers' ability to serve the end user customer's location (e.g., business, school, library, or nonprofit site) with a dedicated last-mile input leased from the ILEC.

A. Limits to Cable Connections that Can Be Used for Dedicated Services

28. Windstream's experience is that cable companies generally are significant retail competitors in the Dedicated Services markets only in the limited number of business locations where they have fiber connecting to the customer's premise.

29. Cable companies' far more widely available coaxial and hybrid fiber coax ("HFC") connections are distinct from the reliable, complex communications services that Dedicated Services customers usually require. Neither coaxial nor HFC connectivity, as

generally deployed, are suitable for the needs of the Dedicated Services markets. Windstream generally has not seen HFC marketed to business customers for Dedicated Services.

30. In particular, Dedicated Services customers usually require at least 99.99 percent or 99.999 percent uptime and meaningful performance assurances, but based on what is being offered to Windstream on a wholesale basis, no cable provider assures this level of availability or performance SLAs over coaxial cable or HFC. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** And based on the service level objectives (not guarantees) that Windstream has seen cable companies offer, HFC-based Best Efforts Services are particularly unsuited to applications that require lower levels of jitter/delay variation. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

31. HFC and coaxial connections are shared in part and typically do not support services with higher levels of network performance-based QoS, on a customer-by-customer basis, and thus are not suitable for supporting MPLS. For this reason, these connections are not acceptable last-mile technologies for services like Windstream's dedicated VPN service, which supports a minimum of four classes of services for per-packet prioritization.

32. A further HFC limitation is upload capacity: While higher speeds are possible on an asymmetrical basis, Windstream's wholesale experience indicates that cable providers' HFC-based symmetrical offerings currently do not exceed 10 Mbps.

33. Windstream has experienced more significant losses from smaller customers with simpler needs migrating to cable than it has from larger customers with more complex needs migrating to cable. The above-referenced price gap between Best Efforts Services and Dedicated Services, together with this pattern, reinforce that cable providers' most commonly available offerings (i.e., Best Efforts Services) do not provide adequate functionality to substitute for Dedicated Services. This is consistent with third-party market intelligence of which Windstream is aware, which similarly suggests that for price-sensitive small to medium-sized customers, Dedicated Services are favored over cable and other providers' Best Efforts Services when reliability, sustained throughput, and other interests such as managed security are important.

B. Constraints on Using Fixed Wireless for Provisioning Dedicated Services

34. Windstream offers fixed wireless in addition to providing wireline telecommunications services to select customers in a subset of its competitive markets. In some instances, this limited fixed wireless offering can substitute for a standalone wired connection. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

35. Fixed wireless may face various limitations, including congestion, interference, rain fade, and need for line-of-sight, depending on the technology and frequencies used—such that it cannot be assumed to work at every location within an area covered by specific spectrum. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

36. In addition, a fixed wireless provider often must obtain building access, which erects a significant barrier because access must be negotiated with each building owner.

V. DESCRIPTION OF BEST EFFORTS SERVICES MARKETS

37. Best Efforts Services customers' core data services needs are generally met by high-speed Internet access. Best Efforts Services customers are willing to run traffic over the public Internet and do not require a Dedicated Services experience.

38. Less complex needs. Best Efforts Services customers do not have the same level of requirements as Dedicated Services customers do for security, and they generally do not need to be able to prioritize traffic though customer-specific QoS arrangements.

39. Service level requirements. Best Efforts Services customers may not have uptime SLAs at all, or may require only 99.9 percent uptime, and generally do not have any performance SLAs, such as for latency, jitter, and packet loss—nor can such performance levels be assumed based on the nature of the service/connection, as they can with DS1s and DS3s. Best Efforts Services customers generally run applications that are more tolerant of packet loss and jitter. Windstream's experience is that Best Efforts Services customers are more interested in the committed response times of their service providers when a performance issue arises, instead of specific uptime and performance SLA commitments.

40. Standardized service offerings and support. Best Efforts service customers generally do not expect or attain personalized service offerings like Dedicated Service customers. Best Efforts Services customers may not require personalized customer service, and customer service commonly may be provided with shared support through call centers.

41. Some multilocation and higher aggregate expenditure level. While Best Efforts Services customers often operate only one location, some multilocation customers may have at least some of their needs addressed with this type of service. Similarly, while Best Efforts Services customers tend to be smaller customers in terms of overall monthly telecommunications spend, some larger customers with simple communications needs also fall into this category for at least some locations.

42. Competitors. As with Dedicated Services customers, the number of competitors (other than service resellers) for any given Best Efforts Services customer location depends on the availability of last-mile access to the building. Windstream CLECs' principal retail competitors in the Best Efforts Services market are primarily large ILECs and cable companies, and to a lesser extent other CLECs, such as Level 3, Integra, XO, and EarthLink. In particular, cable providers' coaxial and HFC products offer competitive alternatives for Best Efforts

customers in areas where they are available. The same is true for ILECs' DSL offerings, as well as some ILEC fiber-based offerings, e.g., Verizon FiOS Best Efforts products.

VI. WINDSTREAM'S WHOLESALE BUSINESS OFFERINGS

43. Windstream, through its combination of its CLEC and ILEC operations, provides TDM special access and Ethernet services and unbundled network elements, along with other wholesale inputs, to carrier customers seeking last-mile access and transport. It generally provisions these inputs by utilizing both copper and fiber facilities.

VII. WINDSTREAM'S OPTIONS FOR PROVISIONING SERVICE AS A CLEC

44. Windstream operates the nation's sixth largest fiber network (now spanning approximately 121,000 miles). Through Windstream's CLEC and ILEC operations, this network supports residential and business services customers in the Dedicated Services and Best Efforts Services markets. However, there still is a large area of the country where Windstream is not the ILEC, and where it is not economically feasible for Windstream to build last-mile facilities alongside the incumbents' existing infrastructure, except to serve the very largest customers.

45. Dedicated last-mile connections often are an essential component for services purchased by Windstream's business customers. For any given location, copper, coaxial cable, and/or fiber may be available in the last mile. Cable Best Efforts connectivity—whether via HFC or coaxial cable—is ill suited to meet the demanding uptime and performance requirements of Windstream's Dedicated Services customers. Cable and CLEC fiber last-mile connections, while enabling Dedicated Services, are limited. Likewise, fixed wireless last-mile connectivity lacks the necessary availability to make it a substitute for dedicated wireline connections in most locations. As a result, for the vast majority of business locations, Windstream's competitive operations must rely on the incumbent's existing infrastructure in the last mile.

46. For some locations, the ILEC is also the only provider of transport services to reach a particular ILEC end office, so Windstream must also lease transport from the ILEC.

A. Self-Provisioning Fiber Last-Mile Facilities

47. All-fiber last-mile facilities are the only option that fully meet the needs of sophisticated Dedicated Services customers across the full range of bandwidth requirements. As discussed further below, other alternatives have constraints such as lack of QoS and the traffic prioritization that the Dedicated Services markets requires.

48. Windstream may self-provision fiber facilities in one of three ways: using its own existing facilities, building new facilities, or purchasing a facility (such as in the form of an Indefeasible Rights of Use ("IRU")). Windstream has few, if any, IRUs for last-mile access.

1. Using Windstream's existing fiber facilities.

49. Windstream has its own last-mile fiber connection to certain buildings, which are "on-net" or "lit." *****BEGIN CONFIDENTIAL***** [redacted]

[redacted] *****END CONFIDENTIAL*****

2. Building new Windstream fiber facilities.

50. Windstream is connecting additional buildings in its CLEC areas to our fiber network, but there are significant limits on the economic feasibility of Windstream's ability to build. These limits include the high costs of constructing a common ring, the absence of access or high-priced access to individual buildings, and, importantly, the lower take rate and revenue opportunity for providers when they enter the market after the incumbent. Windstream evaluates each potential fiber build to an office building based on the projected internal rate of return, which is influenced by a number of factors such as the anticipated level of demand for services and the expected margins on those services, whether there are existing off-net access costs for that particular building, whether running fiber to that building brings another group of buildings closer to the company's fiber, and the potential revenue opportunities from those buildings.

51. In general, Windstream will not consider building new fiber facilities to buildings that are further than *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** but numerous barriers will prevent Windstream from reaching many buildings even within this distance. First and foremost, such a build must be projected to generate sufficient revenue— *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** While an ILEC often can use its infrastructure deployed in the monopoly era, other barriers to a CLEC's last-mile deployments include, for example, the need to negotiate access to a building, limitations on rights-of-way access, and local construction requirements, all of which affect the cost of the build and Windstream's ability to build within a quick enough timeframe to meet the customer's needs and achieve an adequate rate of return. Moreover, CLECs lack the ability to spread their costs over a customer base comparable to the large scale of the ILEC, which benefits from the "first mover" advantage of possessing 100 percent market share at the start of the competitive era.

52. Lacking these advantages in its CLEC areas, Windstream's current CLEC fiber last-mile deployment plans target —*****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** in contrast to Windstream's hundreds of thousands of business customers. Thus, although Windstream continues to invest in expanding our fiber network, it still must rely heavily on leasing last-mile access, especially from large ILECs.

B. Unbundled Network Elements

53. Unbundled Network Elements ("UNEs") are an important last-mile option for CLECs in locations where the network infrastructure (collocation, transport, and last-mile copper or fiber) has been established and where the CLEC has not agreed to a restriction on purchasing UNEs. As reflected in the data filed by Windstream in response to the special access data

request, UNEs represented an estimated *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** percent of Windstream's served locations (both reportable and non-reportable) within its CLEC operations.

54. Among other purposes, UNEs may be used for provisioning Ethernet over Copper ("EoC") service or for provisioning DS1 and DS3 capacity in an IP or TDM format. However, as discussed in paragraph 67 below, some large ILECs deny that they have an obligation to provide access to unbundled DS1 and DS3 capacity loops if those loops are comprised of fiber or transmit traffic in an IP format.

55. When available, UNEs continue to be vital checks on ILEC pricing for both retail and wholesale services because they are usually priced lower than all other last-mile inputs offering comparable capacity. When not forced by large ILECs with market power over Dedicated Services to relinquish the right to use UNEs (as described below), Windstream and other CLECs may use UNEs as a potential concession in negotiations for rates on ILEC deregulated services, as a CLEC can offer not to purchase UNEs (either entirely or to some degree) in exchange for better terms on alternative access.

1. Reasons Why UNEs May Be Unavailable for CLEC Use

56. Windstream, based on price, always prefers UNEs to special access (whether TDM or Ethernet) at low bandwidth levels, in the absence of technical or availability constraints; the fact that Windstream regularly uses special access instead demonstrates the significance of these constraints, which are detailed below.

57. Regulatory limitations on UNE availability. UNEs are available only in markets where the Commission has concluded there is impairment to competitive entry. UNEs cannot be used to provision services exclusively for CMRS or long distance. 47 C.F.R. § 51.309(b). If the CLEC is not collocated in the ILEC's end office, then there are restrictions on combining a UNE loop with UNE transport. 47 C.F.R. § 51.318. CLECs may obtain an end-to-end copper loop (which can be used for Ethernet over Copper) where those have not been discontinued. Unbundled DS1 and DS3 capacity loops are not available in certain geographies, and a carrier may request no more than 10 DS1 or 1 DS3 capacity loops to any single building. 47 C.F.R. § 51.319(a)(4), (5).

58. Contractual barriers to use of UNEs. Because of large ILEC control of the only facilities capable of supporting Dedicated Services that reach a substantial majority of business locations within that large ILEC's territory, in some cases a CLEC will be required to forego use of UNEs as a condition of a Dedicated Service discount plan. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

59. Collocation requirement. To utilize an unbundled loop, Windstream's CLEC operations typically use a collocation in an ILEC's wire center. In some cases, collocation is in

the specific ILEC end office in which the unbundled loop terminates. In other cases, Windstream can have the ILEC combine an unbundled loop with unbundled transport to reach another of the ILEC's central offices in which Windstream has collocated. Wherever it is collocated, Windstream typically must apply for and obtain physical collocation space in the ILEC's serving wire center to include floor space, power, and DS0 carrier facility assignment. With collocation, Windstream typically must arrange for backhaul connectivity from the collocation to Windstream's data point of presence. In contrast, collocation is not required for special access.

2. Use of DS0 UNE Loops to Deploy Ethernet over Copper

60. Windstream's CLEC operations may be able to provide EoC to customers in off-net buildings where end-to-end copper facilities are available as DS0 UNE loops from the ILEC (or where the ILEC offers its own EoC service on a wholesale basis). There, however, are several key constraints to EoC use.

61. Bandwidth limitations. Windstream's EoC service offerings use an all-copper DS0 UNE loop to provision capacity over short distances at levels most commonly at 20 Mbps or below—but sometimes for up to 45 Mbps of capacity. In theory, even higher speeds are possible, but as a practical matter generally are not feasible for Windstream due to limitations, such as loop distance and number of available copper pairs. Windstream typically leases four or eight dry DS0 UNE loops, each capable of between 2 to 5.5 Mbps per pair (depending on loop distance) out to approximately 10,000 feet; a loop is "dry" when the ILEC does not terminate the copper pair into its own electronics. After 10,000 feet, requisite EoC bandwidth cannot be achieved. The pairs are bonded to create a single 2 to 45 Mbps interface delivered to the end customer. This solution provides symmetric upstream and downstream speeds. Sensitivity of pair distance and quality makes it more challenging to offer EoC than a repeater-capable DS1/DS3 delivery method. This forces Windstream to develop contingency plans to deliver bandwidth when access to suitable DS0 copper pairs is unavailable—introducing additional cost and service delivery time.

62. Availability of copper loops. While it is technically possible to bond up to thirty-two copper pairs together when using DS0 UNEs, Windstream typically does not have that quantity available to it for deploying service to an individual end-user location. ILECs frequently state that UNE loops are not reusable due to the ILEC's use of the loops or "chronic" performance issues, so even when four or eight loops at less than 10,000 feet run into a building, EoC may still not be an option. To determine the availability of suitable pairs to a retail customer location, Windstream must develop methods to interface with the ILEC's record systems to avoid unnecessary effort and delay in provisioning local access. A further complication arises in the technology transitions: even if copper loops are available today, the ILEC may opt to replace the DS0 UNE loops with fiber, all or in part, in the future; if that occurs, CLECs lose the ability to deploy EoC in the last mile.

63. Dry home-run loop requirement. To provide EoC, Windstream requires dry home-run cooper loops (DS0 UNE loops), which run end-to-end from the central office to the end-user customer location. Windstream then terminates the copper pairs into its electronics. If the loop is not ready for EoC use, the ILEC charges Windstream to remove electronics on the

ends of the connection or on the line (such as load coils, bridge tap, or repeaters). Windstream has no ability to directly affect mid-span electronics. These factors often combine to make use of such a loop cost prohibitive for Windstream. Additionally, when copper facilities only reside behind a Subscriber Loop Carrier or Digital Loop Carrier in a remote terminal, Windstream's ability to deliver EoC can be dramatically impaired due to lack of copper end-to-end connectivity. Collocating EoC devices into a remote terminal or Serving Area Interface is possible, but typically not cost effective. Such an approach has the effect of materially limiting the scope of potential customers (for instance, if only one or two business customers are located in the serving area of the remote terminal) and increasing the number of EoC devices that would need to be deployed. Larger central-office-based serving footprints are generally necessary to make an economic case for EoC equipment deployment.

3. Unbundled DS1 and DS3 Capacity Loops

64. Windstream's CLEC operations also may be able to provide Dedicated Services (either TDM or Ethernet, in the form of "Ethernet-over-TDM") to retail customers by leasing unbundled DS1 and DS3 capacity loops from the ILEC. These loops provide a means for delivering Ethernet with far less distance-sensitive technology than EoC. They also may be preferred if new collocation would be required to support a DS0 UNE connection. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** There are, however, several key detriments to using DS1 and DS3 capacity loops as compared to other wholesale inputs.

65. Bandwidth limitations. Theoretically, DS1 capacity loops can be used to provide TDM special access and Ethernet services at up to 12 Mbps (1.5 Mbps per circuit, with technical limit on bonding at 8 circuits). An unbundled DS3 capacity loop provides 45 Mbps for either TDM or Ethernet service, and may be bonded with a single (non-UNE) DS3 special access connection per end user location. In practice, the economic and technological feasibility of DS1 and DS3 bonding, however, declines as needs for multiples of DS1 and DS3 circuits increase. Moreover, fiber DS1 and DS3 capacity loops, to the extent ILECs continue to offer these inputs (see ¶ 67 below), can never practically be leveraged for greater Ethernet capacity than what is possible for TDM-based service, because in Windstream's experience, ILECs typically just deliver use of this "facility" in the form of limited IP bandwidth (even though an underlying fiber connection could support significantly more capacity). Copper DS1 and DS3 capacity loops likewise are not usable for higher-bandwidth EoC because of the electronics installed on the line to ensure sufficient quality of service over the full reach of the connection (e.g., load coils). These provisions guarantee DS1 capacity with sufficient signal to noise ratio over the full length of the connection, even when traversing longer distances.

66. Higher input costs than EoC. Costs are higher when provisioning Ethernet over DS1 and DS3 capacity loops versus DS0 loops because unbundled DS1 and DS3 capacity loops are more expensive on both an absolute and per-Mbps basis.

67. Uncertainty regarding continued availability. The large ILECs have taken the position that they are not required to offer unbundled DS1 and DS3 capacity loops if they are comprised of fiber or convey IP-based transmissions. Windstream has petitioned the FCC to confirm that the obligation to provide unbundled DS1 and DS3 capacity loops is technology neutral and will continue to apply to fiber and IP-based last-mile access. The uncertainty of potentially losing unbundled DS1 and DS3 capacity loops as a result of the ILECs' attempt at self-deregulation hinders CLECs' ability to offer cost effective competitive services to Dedicated Services customers. Small- and medium-sized businesses generally purchase communications services on multiyear terms, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****. Thus, competitive carriers are bidding today on services they will provide over multiple years. The likelihood that, absent Commission action, unbundled DS1 and DS3 capacity loops will become unavailable within the next several years raises the risk and overall cost for competitive providers such that they may not be able to offer the lowest possible prices to compete with the ILECs.

C. Special Access Services

68. Where it cannot utilize UNEs, Windstream also purchases special access services, both TDM and Ethernet, to supplement our fiber network.

69. TDM special access services provided over legacy facilities have more rigid and often lower bandwidth levels compared to fiber-based Ethernet. Ethernet offers a wide variety of bandwidths and can be provisioned over copper or fiber. For larger customers requiring high bandwidth throughput across their wide area networks, Ethernet fiber-based services, accordingly, are usually the medium of choice where available. These customers use applications such as real-time video, web conferencing, messaging platforms, high resolution imaging, and cloud resources—all of which drive demand for more bandwidth.

70. Windstream prefers using Ethernet whenever possible due to network efficiencies. ILECs' TDM special access services, however, currently remain crucial inputs for Windstream to be able to provide lower bandwidth services to business retail customers that want data services at locations where Windstream or other CLECs do not have their own networks, because of limits to wholesale providers' Ethernet availability and large ILECs' pricing of Ethernet services, and where UNEs cannot be utilized. CLECs may use TDM special access service as a wholesale input to provision retail TDM or Ethernet connectivity.

71. When choices for purchasing special access services are available, Windstream's selection of services from among these categories is influenced by its pricing tool, which requires the selection of the lowest cost provider.

72. In some cases, Windstream purchases special access services from other CLECs or cable providers, if these providers have placed or are willing to extend fiber to a particular

location. These options, however, are limited. For all other locations, the only vendor of wholesale special access services was the ILEC.

1. CLEC Last-Mile Connections Are Limited

73. Windstream purchases last-mile access from another CLEC (either TDM or Ethernet, as needed by the customer) where it can do so, but locations where CLECs have their own facilities are limited. *****BEGIN CONFIDENTIAL***** [redacted] *****END CONFIDENTIAL*****

74. This low percentage is not surprising given *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

2. Cable Offers Little, or No, Wholesale Alternative

75. Cable wholesale special access services are limited to the locations in which cable providers have placed fiber last-mile facilities. As noted above, such locations are very limited.

76. In addition, even where cable is available, fiber last-mile connectivity may not be offered to carrier customers at rates, terms, and conditions that enable it to be a workable option.

77. As a result of these factors, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** This expense is attributable to purchases of Ethernet services provisioned over last-mile fiber connections from cable companies where Windstream has Ethernet Network to Network Interfaces ("ENNIs") in place and the cable companies have built out and lit fiber at the end-user customer address or are willing to build. In Windstream's experience as a carrier customer, cable companies typically are only willing to build, however, if the wholesale purchaser commits to meet a high revenue threshold, which usually makes this option uneconomic.

78. Currently Windstream does not serve any Dedicated Services customers using cable providers' coaxial or HFC last-mile connections because these connections cannot support the functionality and assurances required by these customers.

79. Cable companies typically do not offer TDM special access loops due to their DOCSIS architecture, which provides no mechanisms for DS1/DS3 transmission facilities.

3. Large ILECs Still Dominate the Wholesale Market

80. ILECs are the predominant source of all forms of special access services in every region of the country. As previously stated, the ILECs reach nearly every location—far more buildings than CLECs and cable, whether considered individually or collectively. *****BEGIN**

HIGHLY CONFIDENTIAL* [redacted] ***END HIGHLY CONFIDENTIAL***

81. ILECs are by far the most widely available wholesale source for Ethernet services and TDM special access services. When negotiating contract prices and terms with its prospective retail Ethernet customers, Windstream seeks to respond to the ILECs' wholesale prices and terms for underlying last-mile connectivity, but this is proving to be increasingly difficult, if not impossible, for the reasons described below.

a. Ethernet

82. Windstream's preferred form of ILEC wholesale special access is Ethernet, but the large ILECs' Ethernet pricing practices are hindering Windstream's ability to use wholesale Ethernet inputs to advance IP-based competition in the Dedicated Services markets. As elaborated upon in the next section, ILECs now are setting wholesale Ethernet prices at levels that make it difficult, if not impossible for, CLECs to compete for business service customers.

83. ILECs also may refuse to commit to the extended availability and pricing of Ethernet, whereas Windstream's retail customers generally require the certainty offered by quotes based on multiyear commitments. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

b. TDM Special Access

84. Windstream also is unable to assure continued discipline of special access retail prices when using ILECs' TDM special access as a last-mile input. While ILEC tariff discount plans require carrier customers to commit to making purchases over extended terms, ILECs contend that they have the ability to eliminate these discount plans at their option (i.e., the term guarantee applies to the carrier customer, but not the ILEC). This places CLECs in a challenging position, especially given, as discussed above, Windstream's experience, which indicates that retail customers often require the certainty offered by quotes based on multiyear commitments.

85. Even if TDM special access continues to be made available, wholesale TDM special access may not be able to discipline retail Ethernet prices effectively, as the former is subject to strict bandwidth limits and does not benefit from IP-based network efficiencies.

VIII. LARGE ILECS' HIGH WHOLESALE CHARGES FOR LAST-MILE ETHERNET ACCESS UNDERCUT WINDSTREAM'S ABILITY TO COMPETE

A. ILECs' Charges to Reach End-User Locations Are Substantial, Growing, and Impeding CLECs' Ability to Compete

86. Windstream's CLEC operations are incurring large and growing costs to attain last-mile access to its business service customers' locations. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

87. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** even though last-mile access technologies are increasingly more efficient than ever before.

88. With retail pricing better reflecting IP-based efficiencies, wholesale cost conditions in the technology transitions are placing substantial margin pressure on CLECs and thereby jeopardizing CLECs' ability to continue serving as a meaningful source of competition for business service customers. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

89. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted]

[redacted] *****END HIGHLY CONFIDENTIAL*****

90. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

B. Large ILECs Now Charge Wholesale Ethernet Rates that Exceed Retail Rates

91. For TDM special access, large ILECs file "off the-rack" rates for month-to-month and longer terms, and offer these rates to both retail and wholesale customers. The ILECs' longest terms (five-year and seven-year) carry the largest discounts. Based on Windstream's experience, most retail customers avoid making purchase commitments of this duration. Carrier customers, however, routinely buy under the five-year or seven-year term discount plans, because the carriers are commonly able to attain circuit portability (i.e., no early termination liability if a single circuit is used for less than the five- or seven-year term) by committing to large purchase volumes. This means that Windstream effectively is able to use the lowest cost wholesale inputs (purchased under the five-year and seven-year discount plans) to compete with the ILEC and other dedicated service providers in providing retail offerings to individual business service customers at three-year and shorter terms.

92. In contrast, Windstream has found that large ILECs' baseline wholesale Ethernet rates charged to carrier customers may have little or no bearing to the rates charged to the ILECs' retail customers. Windstream, in particular, now is seeing some large ILECs set retail Ethernet special access offers that are below wholesale rates for equivalent capacities with the same term commitments. *****BEGIN CONFIDENTIAL***** [redacted] *****END CONFIDENTIAL***** This is consistent with CostQuest's comparison of Telogical-surveyed average retail Ethernet prices to average AT&T and CenturyLink wholesale Ethernet Guidebook rates, which found that surveyed retail Ethernet prices were substantially lower than AT&T and CenturyLink wholesale Guidebook rates.

93. Wholesale prices that exceed retail prices for equivalent capacities preclude competition in the retail market because it is not feasible for Windstream and other CLECs to recover the higher wholesale lease expense by setting their CLEC retail rates far above those of the ILECs. While in theory the difference could be made up through margins on other services, CLECs also compete with the ILEC with respect to these other services that are part of the total business solution, so they cannot significantly raise rates for these other components without losing customers.

94. Although Windstream may be able to achieve lower rates through commercial agreements, Windstream must make significant commitments to do so, even though the ILEC

retail customer does not need to make the same level of commitment to achieve a discounted rate. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

95. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

96. As explained above in Section VII.C.3.a, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

C. Large ILECs Even Charge Higher Per-Mbps Rates for Special Access in IP versus TDM

97. In Windstream's experience, ILECs charge substantially more for Ethernet than for TDM special access at lower levels of bandwidth (generally less than 10 Mbps). While this is certainly reflected in comparing Guidebook Ethernet rates and tariffed DS1 rates, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** To shield retail customers from these price increases, Windstream avoids purchasing ILEC Ethernet inputs at low bandwidths.

98. Pricing disparity between last-mile Ethernet access and tariffed TDM-based special access is even more significant for purchasers that do not operate under commercial agreements or commitment plan discounts: For Kings Point, Florida, AT&T charges $126.00 for a DS1 circuit (1.5 Mbps) under the 36-month tariffed rate, versus $1,075.00 for a 2 Mbps Ethernet circuit under AT&T's publicly available 36-month rate for Switched Ethernet, Interactive Class of Service—a more than eight-fold increase in price.

99. This price increase when moving to IP is not justified by higher costs: As Windstream knows from its own experience, capacity is less costly to provision with IP technologies (e.g., Ethernet), so a move from special access in TDM to IP should result in lower special access prices, not higher like those being charged by the large ILECs.

D. ILECs Block Competitive Entry with Excessive Special Construction Charges

100. It is customary for ILECs to impose special construction charges, in addition to regular charges for service, where new deployment of fiber or other facilities is necessary to provide the wholesale special access service and the ILEC has no other requirement for the facilities. However, when used improperly, special construction charges can be a means for ILECs to effect backdoor price increases for wholesale services and thereby undermine competition in the business services market—leading to less choice and higher prices for schools, health care providers, governmental entities, and businesses, among other customers.

101. Windstream observes significant variations among the large ILECs' special construction practices. In particular, Windstream's data show—based on an analysis comparing special construction quotes to completed orders for the first three quarters of 2015—that Verizon is more than 40 times as likely to impose Ethernet special construction charges than AT&T, and much more likely to impose special construction charges on Ethernet as compared to TDM special access services. Windstream data also indicate that Ethernet special construction charges are increasing: *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

102. Special construction assessments can cause a competitive carrier to lose a service contract due to charges that significantly increase its, and its retail customers', costs as well as delay service delivery. In particular, Windstream estimates that it lost retails sales that would have generated *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

E. ILEC TDM Special Access Volume Commitments Further Penalize CLECs Migrating to IP

103. Pressure on competitors' ability to serve as a meaningful source of competition in the IP era is exacerbated by ILEC term and volume commitments tied to CLECs' spending on TDM special access services. With the increase in demand for Ethernet services, CLECs may be subject to substantial penalties if the CLECs do not meet ILECs' loyalty commitment provisions for TDM special access services.

104. For Verizon, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted]

[redacted] *****END HIGHLY CONFIDENTIAL***** Although Verizon's tariffs contain provisions ostensibly providing the ability to migrate from a DS1 special access service to Ethernet, in practice, these migration provisions are very difficult to invoke and implement. First, no new customer location can qualify for the transition and count toward Windstream's commitment level. Second, any Ethernet circuit that Windstream leases at the same location to replace a DS1 circuit will not qualify as a migration unless it has a term commitment at least as long as, if not longer than, the prior DS1 circuit, which means that Windstream often has to sign up for a longer term and potentially incur a larger early termination liability. (Usually the potential term of the wholesale input is misaligned with the term of the retail service provided by Windstream, so Windstream either would have to renegotiate its customer contract or pay for an unused circuit.) Third, the replacement circuit has to cost at least as much as, or more than, the DS1 circuit, even though Ethernet is more cost-efficient than TDM. Fourth, the tariff imposes short timeframes for notifications and disconnections, and the failure to meet any of these timing requirements disqualifies the Ethernet circuit from counting toward the commitment.

105. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: January 22, 2016

Dan Deem

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: January 22, 2016

Douglas Derstine

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: January 22, 2016

Mike Kozlowski

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: January 22, 2016

Arthur Nichols

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: January 20, 2016

Joe Scattareggia

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: January 22, 2016

Drew Smith

ATTACHMENT B

REDACTED - FOR PUBLIC INSPECTION

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
	)	
Special Access for Price Cap Local Exchange Carriers	)	WC Docket No. 05-25
	)	
	)	
AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services	)	RM-10593
	)	
	)	
Technology Transitions	)	GN Docket No. 13-5

REPLY COMMENTS OF WINDSTREAM SERVICES, LLC

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February 19, 2016

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REPLY COMMENTS OF WINDSTREAM SERVICES, LLC

I. INTRODUCTION AND SUMMARY

As Windstream Services, LLC ("Windstream") warned in its opening comments, no less than "[t]he future of a robust array of choices for complex communications solutions, and the competition that delivers those choices, is at stake in this Commission proceeding."[1] Without Commission action, "[c]hoices for integrated, managed solutions will disappear as the large [incumbent local exchange carriers ("ILECs")] squeeze other providers from the market."[2] Comments not only from other local exchange competitors, but also from enterprise business users and a major wireless carrier confirm the critical need for Commission action to limit the market power that the largest ILECs in particular continue to have and exercise, and to stop their ongoing, unjustified price squeezes. Windstream does not take joining this call to action lightly. Its company interests are nearly evenly weighted between incumbent and competitive local exchange carrier operations, and it is the nation's fifth-largest ILEC.

ILEC market power stems from the fact that ILECs remain the sole provider of dedicated last-mile transmission facilities into a substantial majority of business locations in their service areas, and one of only two such providers to nearly all of the rest.[3] The Commission has long recognized that businesses do not move to make telecommunications choices: The choices they have are the ones that are available at their location, or that quickly can be made available at

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1 Comments of Windstream Services, LLC at 2, WC Docket No. 05-25, RM-10593, GN Docket No. 13-5 (filed Jan. 27, 2016) ("Windstream Dedicated Services Comments").

2 *Id*.

3 *See id.* at 9; Declaration of Dr. Jonathan B. Baker ¶ 44, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) ("Baker Declaration").

their location.[4] So when an ILEC is the only provider of dedicated services facilities to a business location, it is overwhelmingly likely to remain the only provider of dedicated services facilities to that location. The comments from parties other than the large ILECs confirm this reality, and that best efforts broadband is not an adequate substitute for dedicated services customers.

The large ILECs, especially AT&T, Verizon and CenturyLink, however, offer the Commission a market view unmoored from reality. They ask the Commission to ignore all well-recognized principles of competition analysis, and to disregard the evidence of dedicated services customer needs and the substantial barriers to extending fiber into buildings. Their arguments are not even supported by their own behavior: They offer, and price separately, distinct best efforts and dedicated services products, with a premium price for dedicated services offerings. And, outside of their ILEC service territories, the largest ILECs use their own fiber to reach all the way to *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** of the buildings with special access demand in the census blocks in which they have customers.[5]

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[4] *See, e.g.*, *SBC Communications Inc. and AT&T Corp. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, FCC 05-183, 20 FCC Rcd. 18,290, 18,324 ¶ 62 (2005) ("[T]he Commission has recognized that, because a customer is unlikely to physically move its location in response to a small, but significant and nontransitory increase in the price of a communications service, each customer location constitutes a separate relevant geographic market."); *Promotion of Competitive Networks et al.*, First Report and Order and Further Notice of Proposed Rulemaking in WT Docket No. 99-217, Fifth Report and Order and Memorandum Opinion and Order in CC Docket No. 96-98, and Fourth Report and Order and Memorandum Opinion and Order in CC Docket No. 88-57, FCC 00-366, 15 FCC Rcd. 22,983, 22,998 ¶ 31 (2000) ("Although a tenant has the apparent option to express dissatisfaction with the building owner's choice of local telecommunications service provider by moving to a new building, this choice, as a practical matter, is often not available.").

[5] The percentage represents the ILECs' CLEC affiliates' share of locations served in census blocks included in the fiber network map in responses to Question II.A.5 plus Locations served based on responses to Question II.A.4. The II.A.4 locations include only those

The comments also confirm Windstream's concerns that large ILECs are executing exclusionary price squeezes in violation of the Communications Act by failing to offer wholesale prices with required discounts below retail prices, and in some cases even setting wholesale prices above retail prices. These price squeezes are a clear and present danger to competition, not just in providing complex communications solutions that ride over dedicated services connections, but also to competition in deploying additional fiber to business locations to move beyond a monopoly or duopoly environment. In addition to other actions that the Commission can and should take to reestablish limits to control ILEC market power with respect to dedicated services, it must ensure that ILECs are offering wholesale rates, particularly for Ethernet, that reflect their substantial avoided retail costs, including the benefits and cost savings—which they touted in their Tariff Investigation direct cases—of significant volume and term commitments.

As Chairman Wheeler recently reminded us, "[the Telecom Act] established ground rules whereby new entrants could challenge incumbents. We must continue these policies for, after all, the underlying concept of the American economy is competition, competition, competition."[6] Through this proceeding, the Commission can and should do just that.

II. LARGE ILECS IGNORE CONSUMER PREFERENCES AND THEIR OWN MARKET BEHAVIOR IN AN ATTEMPT TO HIDE THEIR MARKET POWER.

As the opening comments showed, dedicated services markets, by every measure, are extraordinarily concentrated in the hands of the large ILECs. The data confirm the CLECs' experience that, despite heavy investments into substantial fiber networks, actual business

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locations that could be mapped to a census block where a CLEC owned a connection or IRU. The number of locations excludes those in an ILEC footprint for ILECs with CLEC affiliates.

6 Remarks of FCC Chairman Tom Wheeler, 20th Anniversary of the Telecommunications Act, Library of Congress (Feb. 11, 2016).

customer locations are largely still out of reach absent any ILEC last-mile input.[7] The large ILECs' own actions demonstrate both that best efforts services are not an adequate substitute for the full range of dedicated services, and that entry to additional buildings is not generally easy or rapid even when a competitor has fiber somewhere in or near that same census block.

A. The Record Shows that Dedicated Services Customers Do Not View Best Efforts as a Substitute that Constrains Dedicated Services Prices.

Users and providers of dedicated services alike have poured evidence into the record demonstrating that dedicated services and best efforts services are fundamentally different sets of offerings with different functionalities designed to meet different needs and offered at different price points.[8] Yet the large ILECs try to camouflage their dominance in one set of markets by

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[7] *See* Comments of Birch, BT Americas, EarthLink, and Level 3 at 23-24, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) ("Joint CLEC Comments") ("Given that incumbent LECs own the only connection to the vast majority of commercial buildings around the country, Level 3 usually has no choice but to lease dedicated services from the incumbent LEC in order to reach locations that Level 3 cannot reach with its own network."); Declaration of Gary Black, Jr. on Behalf of Level Communications, LLC ¶ 6, attached as Appendix B to Joint CLEC Comments ("Black Buy-Side Declaration"); Comments of TDS Metrocom, LLC at 21, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) ("TDS Comments") ("Because of higher costs of deploying its own fiber, TDS CLEC serves only ***BEGIN CONFIDENTIAL*** [redacted] ***END CONFIDENTIAL*** of its business customers over its own fiber."); Declaration of James Butman on Behalf of TDS Telecommunications Corporation ¶ 17, attached to Letter from Thomas Jones, Counsel for TDS Telecommunications Corporation, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-25, GN Docket No. 13-5, 12-353 (filed Mar. 26, 2015) ("Butman Declaration"); Windstream Dedicated Services Comments at 36 ("Windstream has invested billions to operate a fiber network now covering approximately 121,000 miles, but even so, the vast majority of business locations are a significant distance away from Windstream's fiber such that the cost of self-provisioning the last-mile connectivity as a CLEC is prohibitively expensive."); Declaration of Dan Deem, Douglas Derstine, Mike Kozlowski, Arthur Nichols, Joe Scattareggia, and Drew Smith ¶¶ 44, 52, attached as Attachment A to Windstream Dedicated Services Comments ("Windstream Declaration").

[8] *See* Comments of the National Rural Electric Cooperation Association, at 5 n.7, GN Docket No. 13-5, RM-11358, WC Docket No. 05-25, RM-10593 (filed Oct. 26, 2015) ("NRECA Comments"); Comments of The Ad Hoc Telecommunications Users Committee, at ii, 11, WC Docket No. 05-25, RM-10593 (filed Feb. 11, 2013) ("Ad Hoc Feb. 11, 2013 Comments"). *See also* Windstream Dedicated Services Comments at 10-30; Windstream

directing the Commission's attention to different markets, and insisting that best efforts services are adequate substitutes for dedicated services.[9] The Ad Hoc Telecommunications Users Committee rightly labeled this "novel notion" as just "bizarre," and one that "[a] passing familiarity with the nature and history of special access services is sufficient to de-bunk."[10]

As commenters explained through sworn declarations, as well as comments, dedicated services have higher levels of performance than best efforts services on key metrics like availability, latency, and jitter, because their users require sophisticated and integrated communications solutions that rely on superior reliability and the ability to prioritize different types of user-specified traffic.[11] Purchasers of dedicated services "buy them in order to obtain fixed capacity transmission links that are dedicated to their exclusive use, guaranteeing that the

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Declaration ¶¶ 11-24, 37-42; Joint CLEC Comments at 4-5; Comments of XO Communications, LLC on the Further Notice of Proposed Rulemaking at 18, WC Docket No. 05-25, RM-10593 (Jan. 27, 2016) ("XO Comments"); Declaration of James A. Anderson ¶ 33, attached to XO Comments ("Anderson Declaration"); Baker Declaration ¶¶ 31-34.

9 *See* Comments of AT&T Inc. at 13, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) ("AT&T Comments) ("The inclusion of the Commission's cable connection data from the National Broadband Plan mapping project is necessary because cable companies have been aggressively targeting small and mid-sized special access customers for years."); Comments of CenturyLink at 9, WC Docket No. 05-25, RM-10593 (filed Jan. 28, 2016) ("CenturyLink Comments") ("[C]ompetition in the provision of high-capacity services must necessarily account for the services offered by cable providers."); Comments of Verizon at 38, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) ("Verizon Comments") ("[T]he Commission must also take into account 'best efforts' business class broadband services that cable operators provide . . . .").

10 *See* Ad Hoc Feb. 11, 2013 Comments at 11, ii.

11 *See* Windstream Declaration 17-20; Declaration of Paul Schieber ¶¶ 8-16, attached as Attachment A to Comments of Sprint Nextel Corporation, WC Docket No. 05-25, RM-10593 (filed Feb. 11, 2013) ("Schieber Declaration") (discussing relevant differences between special access and best efforts services as experienced by Sprint); Baker Declaration ¶¶ 20, 31. *See also* Windstream Dedicated Services Comments at 11-17; XO Comments at 26; Joint CLEC Comments at 17.

minimum bandwidth they purchase will always be available when they want to use it."[12] As the National Rural Electric Cooperation Association explained, dedicated services also "provide[] 'any-to-any' connectivity among the enterprise's defined locations . . . that does not traverse the public Internet."[13] Utilities customers stress that for their data transmission needs, "[i]t is not a question of capacity," but rather the "extensive service level agreements measuring service metrics such as availability, jitter and latency [that] are provided" as part of dedicated services.[14]

Best efforts services lack these essential performance characteristics. Sprint stated that it does not purchase best efforts services because "[a]mong other concerns, best efforts services do not provide the quality of service necessary to meet business customer needs, such as the need for access to real-time voice or video."[15] As Level 3 explained, best efforts services, even when they are offered with service level agreements, "have technological limitations that prevent them from meeting the needs of customers that demand services beyond basic voice and Internet

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12 Ad Hoc Feb. 11, 2013 Comments at 11. *See also* Windstream Declaration ¶ 18; Black Buy-Side Declaration ¶ 16 ("Level 3's retail business customers generally demand services that offer dedicated bandwidth, symmetrical speeds, robust service level agreements, and a high level of security."); Schieber Declaration ¶ 8 (describing the performance requirements for Sprint's macrocell backhaul providers).

13 NRECA Comments at 5 n.7.

14 *Id.* *See also* Comments of Utilities Telecom Council at 4, GN Docket No. 13-5, RM-11358, WC Docket No. 05, 25, RM-10593 (filed Oct. 26, 2015) (stating that "utilities and [critical infrastructure industries] . . . require low latency for their mission critical applications that protect against faults that can threaten their operations and safety"). *See also* Windstream Declaration ¶ 18.

15 Comments of Sprint Corporation at 13, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) ("Sprint Comments"); Schieber Declaration ¶¶ 12-14 (identifying requirements not met by best efforts services). *See also* Windstream Declaration ¶ 69; Anderson Declaration ¶ 35 ("Cable companies have yet to offer dedicated services which could attract XO's Large and most Mid-Market customers who do not find Best Efforts product acceptable."); Black Buy-Side Declaration ¶ 16 ("Level 3 generally cannot rely on the cable companies' standard best-efforts broadband Internet access in order to reach its customers."); Second Declaration of Matthew J. Loch ¶ 5, attached to TDS Comments ("Loch Second Declaration").

access."[16] Moreover, Level 3 observed that cable providers' Ethernet-over-HFC services "are often subject to high levels of jitter and a relatively lower maximum transmission unit" and are less reliable than cable companies' own Ethernet-over-fiber services and the dedicated services offered by incumbent and competitive LECs.[17] For these reasons, Windstream does not use coaxial or HFC last-mile connectivity as inputs for its dedicated services.[18] As the Ad Hoc Telecommunications Users Committee—comprised of enterprise purchasers of business broadband—puts it, "best efforts business broadband Internet access services are, well, best efforts – the antithesis of special access."[19]

Best efforts services, of course, can be suitable options for many customers with less complex, and more standardized needs, including many small business customers. These customers do not require the higher performance of dedicated services, and stand to benefit from purchasing a different set of services that better suit their needs.[20] The large ILECs tout the

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16 Joint CLEC Comments at 17; Declaration of Chris McReynolds on Behalf of Level 3 Communications, LLC ¶ 21, attached as Appendix A to Joint CLEC Comments. *See also* Windstream Declaration ¶ 39 ("McReynolds Declaration"); Schieber Declaration ¶ 12 ("In particular, due to technical limitations associated with the design of the cable HFC network, cable companies cannot guarantee that the best efforts services they provide will meet Sprint's minimum reliability requirements, making them unsuitable for Sprint's macro network.").

17 Joint CLEC Comments at 17; McReynolds Declaration ¶ 22. *See also* Windstream Declaration ¶ 45; Schieber Declaration ¶ 14.

18 *See* Windstream Declaration ¶ 78. *See also* Schieber Declaration ¶ 12; Anderson Declaration ¶ 35. Thus, even if Verizon were correct in assuming that the relative ubiquity of cable in terms of small business passed means that there is excess capacity to be used as inputs, such inputs would still be unsuitable for dedicated services. *See* Verizon Comments at 38.

19 Ad Hoc Feb. 11, 2013 Comments at 12.

20 *See* Windstream Declaration ¶¶ 37-41 (describing requirements of best efforts services customers based on Windstream's experience); Anderson Declaration ¶ 33 (noting that customers with "reduced service quality and feature needs" switch to best efforts services).

growth of the best efforts markets as evidence of competition in the dedicated services markets.[21] This assertion, however, ignores the differences between the two types of services from the perspective of end users, as documented in the comments and declarations.[22] Industry analysts underline the difference between the markets by cautioning that cable's growth in best efforts services for businesses using adapted consumer products does not equate with or even necessarily lead to competitiveness in the dedicated services markets.[23] As discussed below, the ILECs themselves recognize this division and accordingly offer two distinct sets of services for two distinct sets of markets.[24] Competitive providers also recognize that these are distinct markets, and this recognition is reflected in their business practices. XO, for example, does not even offer best efforts services to its customers and *****BEGIN HIGHLY**

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21 *See* Verizon Comments at 38.

22 *See also* Baker Reply Declaration ¶ 4. Moreover, the large ILECs' data on best efforts offerings is derived from a source—the National Broadband Map—the large ILECs have previously criticized as portraying an overly expansive view of competition. *See* Letter from David Cohen, Vice President, Policy, USTelecom, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 10-90, 10-208, 14-58, 07-135, CC Docket No. 01-92, at 16 (filed Sept. 18, 2014) ("Many census blocks that are ineligible for [Connect American Fund] Phase II funding because they are shown as 'served' on the National Broadband Map *in fact have one or very few locations that are served at the performance levels prescribed by the Commission*." (emphasis added)); Opposition of CenturyLink at 8, WC Docket Nos. 10-90, 07-135, 05-337, 03-109, GN Docket No. 09-51, CC Docket No. 01-92, 96-45, WT Docket No. 10-208 (filed Feb. 9, 2012) ("CenturyLink Opposition") ("There are times when households in one census block may be served only because they can be reached by the edge of a broadband service provider's network in an adjacent census block. *But that does not mean that the broadband service provider is capable of serving -- or intends to serve, even with incremental support -- all of the households in that census block.*" (emphasis added)).

23 *See* Windstream Dedicated Services Comments at 23.

24 *See infra*, Section III.A. Verizon gives the example of Comcast's Ethernet @Home service, which "provides home-based workers" with links to "their corporate network[s]," as a service that competes with dedicated services. Verizon Comments at 39-40. The example actually illustrates the difference between those two sets of markets: Best services broadband may be sufficient for the user "@home," while dedicated services are what power the "corporate network[s]."

CONFIDENTIAL* [redacted] ***END HIGHLY CONFIDENTIAL*** when customers switch to a best efforts product.[25]

B. Large ILECs' Products and Services Themselves Differentiate Between Best Efforts and Dedicated Services, with Different Prices for Each Type of Service.

Despite their insistence that best efforts services are substitutes for dedicated services, the large ILECs' marketing of their own dedicated services offerings tells a very different story. The large ILECs emphasize these features of their own dedicated services offerings.[26] Verizon states that its Dedicated E-Line service is provided over a "dedicated path with predictable latency provided upfront," and is suitable for "real-time" applications.[27] AT&T highlights that its Ethernet services offer "low latency" and "data packet prioritization" among other features that make them appropriate for uses like telemedicine and streaming video broadcasting.[28] AT&T's dedicated real time class of service offerings, for example, provides uptime and performance assurances of 99.99 percent and higher, and can include a 99.995 percent packet delivery rate, latency of under 5 ms, jitter of under 3 ms, and traffic prioritization into 6 different Quality of Service ("QoS") tiers.[29] Verizon's Ethernet Dedicated E-Line + service provides a service

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25 *See* XO Comments at 18; Anderson Declaration ¶ 33. *See also* Joint CLEC Comments at 16 (stating that Level 3 "generally does not monitor or respond to the cable companies' rates, terms, and conditions for these [best efforts] services" (internal quotation marks omitted)); McReynolds Declaration ¶ 20.

26 *See* Windstream Dedicated Services Comments at 13-18.

27 Verizon, *Simple, Flexible Connections for Today's Business* at 6 (2015), http://www.verizonenterprise.com/resources/brochures/br_simple-flexible-connections-for-todays-business_en_xg.pdf.

28 *See* AT&T, AT&T Switched Ethernet Guidebook, Part 5—Special Access Services, Common, Section 4—AT&T Switched Ethernet Service at §§ 4.1(H)(2)(c), 4.2(A)(7) (effective July 3, 2012), http://cpr.att.com/pdf/is/0005-0004.pdf.

29 *See id.* at § 4.2(B) ("The SLA service parameter for Network Availability is to be not less than 99.99 percent for all ports regardless of Class of Service.").

availability standard of up to 99.999 percent, 99.995 percent service level for packet delivery, frame jitter under 5 milliseconds (ms), and traffic prioritization into 4 different QoS tiers.[30] Likewise, CenturyLink's Ethernet service provides up to a 99.995 percent network availability service level, with a maximum latency of 10 ms and maximum jitter of 1 ms.[31]

These statements regarding the large ILECs' dedicated Ethernet services contrast with the performance of their best efforts products. In particular, AT&T's U-verse best efforts service aimed at business customers provides only 99.9 percent network availability and packet delivery guarantees.[32] CenturyLink's business broadband service likewise offers only a 99.9 percent network availability level.[33] Verizon's FiOS business broadband service does not offer any specific network or performance guarantees, though it does cite prior performance test results.[34] Moreover, none of these best efforts services appears to provide the ability for customers to specify varied QoS priority tiers for traffic.

The qualitative differences between the large ILECs' dedicated services and best efforts services, and between the needs of their respective users, are further reflected in their pricing of

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30 *See* Verizon, Verizon Ethernet Dedicated E-Line + at 5-6 (2014), http://www.verizonenterprise.com/external/service_guide/reg/cp_edeline_plus_ethernet_dedicated_eline.pdf. *See also* Current Analysis, "Verizon U.S. WAN Services," at 13 (May 8, 2015) (observing Verizon's offered service level for latency is determined based on the customer's specific route).

31 *See Wholesale Ethernet Service*, CENTURYLINK, http://www.centurylink.com/wholesale/EthernetServices/#tabSection (last visited Feb. 13, 2016).

32 *See AT&T Broadband – Service Level Agreement*, AT&T, http://www.att.com/gen/general?pid=6622 (last visited Feb. 17, 2016).

33 *See* CenturyLink, CenturyLink High Speed Internet at 1 (2011), http://www.centurylink.com/small-business/customer-support/user-guides/HSI-BE-8-8-11.pdf.

34 *See FiOS and DSL Performance*, VERIZON, http://www.verizon.com/about/terms-conditions/fios-and-dsl-performance (last visited Feb. 17, 2016).

both sets of products. In its opening comments, Windstream highlighted the gulf between the per-Mbps retail prices for typical best efforts offerings and typical dedicated services offerings.[35]

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Reinforcing the distinction between these two different sets of markets, the ILECs' response to lower per-Mbps prices offered by best efforts services providers has *not* been to lower the prices for their dedicated services.[37] Instead, they have introduced their own best efforts services in response, and a typical ILEC DS1 price is still significantly higher on a per-Mbps basis than best efforts services —$126 per month for an AT&T symmetrical 1.544 Mbps DS1 connection compared to a U-verse 75 Mbps/8 Mbps download/upload service offered at $130 a month.[38] Verizon, as another example, charges a monthly rate of between $170 and

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35 *See* Windstream Dedicated Services Comments at 24-25.

36 *See* Windstream Declaration ¶ 24.

37 *See, e.g.*, Windstream Dedicated Services Comments at 52-53 & n.171 (citing prices for AT&T's Switched Ethernet dedicated services).

38 *Compare* AT&T Tariff FCC No. 1 § 7.5.9(I) (effective Jan. 16, 2014 & Sept. 14, 2012), http://cpr.att.com/pdf/fcc-pub/1007.pdf, *with AT&T U-verse High Speed Internet-Business Edition*, AT&T, https://www.att.com/smallbusiness/content/shop/internet-phone-tv/internet.page (last visited Feb. 17, 2016).

$264, depending on the rate zone, for a DS1 private line service on a two-year term.[39] By comparison, Verizon's FiOS best efforts services, which are marketed to businesses, offer a symmetrical 150 Mbps service for $185 per month, and a symmetrical 300 Mbps service for $255 per month.[40] By introducing lower per-Mbps prices with best efforts services, the ILECs can segment their customers, providing a lower per-Mbps price to those customers for whom best efforts is sufficient, while charging a higher price to customers that require dedicated services.

C. The Record Shows that Even When Competitors Have Fiber in a Census Block, Substantial Entry Barriers and Costs Relative to Revenues Preclude Widespread Entry to Other Buildings.

The large ILECs project a mirage of last-mile competition in the dedicated services markets by using statistics about non-ILEC-owned fiber located in the vicinity of customers. The presence of *any* type of non-ILEC-owned fiber *anywhere* within a census block (or even a broader metropolitan area), the large ILECs assert, is enough to constrain prices for dedicated services because "additional carriers with the ability to deploy a connection (based on, for example, a large fiber ring or transport facilities that are near the building) also vigorously compete for the business of the building's special access customers."[41] Instead of addressing the

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[39] *See* Verizon Tel. Cos. Tariff FCC No. 1 § 7.5.16(A) (effective July 1, 2015), http://www.verizon.com/tariffs/PDFViewer.aspx?doc=180318.

[40] *See FiOS Internet: Packages*, VERIZON, http://www.verizon.com/smallbusiness/products/business-FiOS-Internet/packages/ (last visited Feb. 17, 2016).

[41] AT&T Comments at 7. *See also* CenturyLink Comments at 27 ("[A] competitor with facilities in a census block generally . . . can serve other locations within the census block . . . ."); Verizon Comments at 2 (arguing that "competition for high-capacity services is thriving" based on data about the percentage of census blocks through which non-ILEC owned fiber runs); *id.* at 21 ("Competitors deploy networks that are within reach of all or most of the concentrated demand within a given metropolitan area.").

myriad of hurdles between the mere presence of fiber in a census block and actually providing competitive dedicated services at a particular customers' location, the large ILECs skip right to their punchline, reciting the percentage of census blocks that have some competitive fiber, and declaring that "competitive special access deployment today is essentially ubiquitous."[42] However, a number of unrealistic assumptions underlie the ILECs' assertion that potential competitors' "sunk facilities" in the vicinity are enough to constrain prices.

Without their assumptions, the large ILECs' Potemkin village of competition crumbles. First, the large ILECs' argument inappropriately assumes that the fiber traversing the census block can be readily used as last-mile inputs for dedicated services.[43] As the large ILECs themselves acknowledge, much of this fiber was intended to serve as transport rather than to provide last-mile connectivity.[44] Adapting a segment of the transport network to run laterals to nearby customer locations takes time, if it is possible at all.

Second, the large ILECs' economists provide no basis for their claim that "a competitive provider that has already deployed a fiber transport network can typically construct a lateral from that network to serve new or existing customers in less than a year."[45] Dr. Baker's conclusions,

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42 AT&T Comments at 12. *See also* CenturyLink Comments at 3 (stating that the data on fiber presence in census blocks "are decisive on their own").

43 *See* AT&T Comments at 15; Competitive Analysis of the FCC's Special Access Data Collection: Mark Israel, Daniel Rubinfeld & Glenn Woroch at 6-7, WC Docket No. 05-25 (filed Jan. 27, 2016) ("Israel et al.").

44 *See* AT&T Comments at 7.

45 *See* Israel et al. at 14. In fact, even the large ILECs' own economists seem reluctant to embrace this opinion as their own. The economists, instead, only go so far as to say that having *multiple* CLECs with fiber nearby and making more than a limited investment each, are needed to assure competitive prices. *See id.* at 8 ("[W]hen *multiple* carriers make *abundant* investments in sunk network facilities, competitive outcomes can be assured." (emphasis added)). The ILEC economists' report also does not indicate how many nearby firms with their own fiber are needed to assure competitive pricing or how much each firm has to invest. *See* Baker Reply Declaration ¶ 5 & n.11.

in contrast, are supported by declarations documenting various barriers to entry as well as information collected pursuant to the Commission's dedicated services data request ("Data Request").[46] As Dr. Baker finds, "CLECs offer dedicated services in only *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** of commercial buildings located in census blocks in which at least one CLEC reports that it serves dedicated services customers or reports that it has fiber facilities."[47] This finding is a more realistic gauge of the degree of competition (or lack thereof) evidenced by the data than the percentages cited by the large ILECs, which, as Dr. Baker noted, overstate the competitive presence of CLECs based on erroneous assumptions.[48]

As the record demonstrates, the cost of constructing a lateral within the necessary window of time to sign up a customer too often is prohibitively high as compared with the anticipated revenues. As Dr. Baker notes, "it would be impractical and uneconomic for a CLEC to connect every potential dedicated services customer in every building in a census block with a fiber ring passing through that census block."[49] He further explains, "a CLEC that has built a fiber ring near a building has not made all the sunk expenditures required to serve that building with its facilities."[50] The Commission is all too familiar with these barriers.[51] Windstream and

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46 *See* Baker Reply Declaration ¶ 6-8; Baker Declaration ¶¶ 97-104.

47 Baker Reply Declaration ¶ 6 (footnotes omitted).

48 *See id.* n.15.

49 Baker Reply Declaration ¶ 6.

50 *Id.* ¶ 7.

51 *See Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) From Enforcement of Obsolete ILEC Legacy Regulations that Inhibit Deployment of Next-Generation Networks*, Memorandum Opinion and Order, FCC 15-166, 2015 WL 9583811 ¶ 83 (noting the inherently "more favorable environment" incumbents have for building out last-mile facilities "due to existing relationships with property owners and prospective customers" (citation omitted)); *Petition of Qwest Corporation for Forbearance Pursuant to*

others have explained in detail the barriers facing competitive entrants who are considering deploying fiber to a building.[52] Competitive providers also have to secure all of the infrastructure access rights that the ILEC has always had—rights of way; conduit and pole access; and entry into buildings, especially carrier hotels.[53] As XO noted, refusal by buildings owners—who are in most cases not legally compelled to provide access—can be "absolute obstacle[s]" to competitive deployment.[54] All of these obstacles add up to sizable cost differences for a CLEC to deploy to the last-mile as compared to an ILEC. TDS compared the costs of deploying fiber to customers incurred by their ILEC business and by the CLEC business, and that comparison shows that even where the CLEC has a much shorter build distance and no material cost variation based on differing locations, the build cost for TDS CLEC was

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47 U.S.C. § 160(c) in the Phoenix, Arizona Metropolitan Statistical Area, Memorandum Opinion and Order, FCC 10-113, 25 FCC Rcd. 8622, 8666-67 ¶ 84 (2010) ("*Qwest Phoenix Forbearance Order*") ("[T]he Commission, in the *Triennial Review Order*, found that competitive carriers face extensive economic barriers to the construction of last-mile facilities. . . . We see nothing in the record to indicate that, in the years since the passage of the 1996 Act, these barriers have been lowered for competitive LECs that do not already have an extensive local network used to provide other services today."), *aff'd*, *Qwest Corp. v. FCC*, No. 10-9543 (10th Cir. 2012). *See also Unbundled Access to Network Elements and Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, FCC 04-290, 20 FCC Rcd. 2533, 2616 ¶ 150 (2005).

[52] *See* Joint CLEC Comments at 31-40; Sprint Comments at 35-38; TDS Comments at 18-21; Butman Declaration ¶¶ 10-16; Windstream Dedicated Services Comments at 35-42; Windstream Declaration ¶¶ 50-52; XO Comments at 36-38; Draft Declaration of George Kuzmanovski ¶¶ 29-32, attached to XO Comments ("Kuzmanovski Declaration"); Baker Declaration ¶ 36.

[53] *See* TDS Comments at 19-20; Butman Declaration ¶ 11-13. *See also* Joint CLEC Comments at 34-35 (citing Data Request responses by other competitive providers describing the barriers to extending last-mile facilities).

[54] XO Comments at 13 ("Building owners often are not interested in having providers in addition to the ILEC to construct to one of their buildings. This is a potentially absolute obstacle for XO because building owners have no regulatory obligation (other than in Texas) to permit access to their properties."). *See* Kuzmanovski Declaration ¶ 32.

[redacted] *****END HIGHLY CONFIDENTIAL***** than that of TDS ILEC.[55] As Dr. Baker further explains, "After accounting for these and other costs, a recent study found that CLECs would not be able to obtain the revenue required to justify entry in most locations."[56]

Third, even assuming the large ILECs' unfounded claim that a one-year timeframe is achievable for competitive deployment of last-mile facilities to a particular location, that build out timeframe alone may be an insurmountable barrier for signing up a new customer—which may allow the ILEC to capture the retail business with an agreement that locks up that customer for several years. Given the amount of investment needed to provide dedicated services to a new customer, competitive providers generally do not build network extensions with only speculative hopes of finding a customer. XO, for example, states that "CLECs need to sign up a sufficient number of customers in advance to justify a lateral construction, and they must complete installation and begin providing service in a timely manner or the customer(s) may be lost."[57] If the competitive provider misses the window of opportunity, those same potential customers usually will turn to the incumbent, whose facilities are already in the buildings.[58]

Fourth, even if a provider with nearby transport fiber would extend a lateral to reach an individual customer location in time and on economically feasible terms, the competitive provider still may not be a viable competitor for a customer seeking to attain its communications

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55 TDS Comments at 20. *See* Butman Declaration ¶ 12.

56 Baker Reply Declaration ¶ 7 (citing CostQuest, Analysis of Fiber Deployment Economics for Efficient Provision of Competitive Service to Business Locations, Attachment A to Letter from Jennie Chandra, Windstream Corporation, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 13-5, 12-353, WC Docket Nos. 05-25, 15-1, RM-10593 (filed June 8, 2015).

57 XO Comments at 5; Kuzmanovski Declaration ¶¶ 10-11 (describing potential revenue considerations in lateral construction decisions).

58 *See* Windstream Dedicated Services Comments at 37; Windstream Declaration ¶ 51. *See also* Joint CLEC Comments at 32.

solution for multiple customer locations. Because of the multilocation needs of dedicated services customers, prospective competitors often must be able to enter the market across many geographic areas,[59] which makes it even less likely that companies without widespread last-mile facilities providing these types of services could gain enough traction to enter or remain in the market. As Dr. Baker notes, particularly with respect to multilocation customers, CLECs (including cable providers) frequently cannot reach every one of that customer's locations using their own last-mile fiber.[60] Cable providers also often are not able to offer the individualized sales and support commonly required for these kinds of services even if they have their own facilities at a customer's locations;[61] industry analysts have repeatedly noted technological and other limitations that have thus far limited cable to small and mid-sized businesses.[62] This commonly leaves the CLEC subject to an ILEC's wholesale prices for leased facilities, which the ILEC can use to drive up the CLEC's overall costs of serving the entire set of locations.[63]

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59 *See* Sprint Comments at 36-37.

60 Baker Declaration ¶¶ 14 (including cable providers in his description of CLECs), 15-16.

61 *See* Joint CLEC Comments at 28 ("[I]n contrast to incumbent LECs, cable companies lack legacy relationships with enterprise customers and the expertise in serving them.").

62 *See* Current Analysis, "Spectrum Business – Business Services US," at 2 (Nov. 23, 2015) ("Spectrum Business' largest segment by far is small businesses. . . . [and] Spectrum Business does not have internal sales and support resources to go to market with sophisticated, tailored enterprise services."); Current Analysis, "Comcast Business – Business Services US," at 2 (Nov. 13, 2015) ("Despite mid-market initiatives, Comcast's high bandwidth/low price broadband value proposition for smaller businesses dominates revenue growth."); Current Analysis, "Time Warner Cable Business Class – Business Services US," at 2 (Oct. 16, 2015) (noting that Time Warner's business revenue "remains dominated by small businesses seeking basic, competitively priced bundles of broadband, voice and video"). *See also* Sanford C. Bernstein & Co., LLC, U.S. Telecom: A Primer in the $70B Enterprise Telecom Market (Cable's Opportunity = Telcos' Loss?) at 6 (July 16, 2015) (projecting that that cable's growth will be in the "[l]ow- and [m]edium-complexity segments using only-slightly-adapted consumer products").

63 Baker Reply Declaration ¶¶ 8, 14-16 (describing potential for exclusionary price squeezes)

Given all these considerations, it is not surprising that AT&T, Verizon, and CenturyLink, notably, focus their last-mile fiber deployments in their own ILEC service areas.[64] The Data Request shows that in their CLEC operations *outside* of their respective ILEC footprints, AT&T, Verizon, and CenturyLink each provide service using their own last-mile facilities into the end user's business location to fewer than *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** of buildings within a census block in which they have customers.[65] In other words, the large ILECs are also not building out to a significant majority (or even minority) of business locations in non-ILEC areas.

And even within their legacy ILEC footprints, the large ILECs have recognized the reality that their fiber deployment in one portion of a census block does not assure viability of deployment to other locations within the same block. For example, CenturyLink urged the Commission to make funds from the Connect America Fund Phase I available for unserved locations in a census block even though a customer in another part of the same census block may

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64 *See AT&T Fiber Reaches 1 Million New Business Customer Locations*, AT&T (Jan. 20, 2016), http://about.att.com/story/fiber_reaches_1_million_business_customer_locations.html ("AT&T offers business customers high-speed Internet products on its fiber network in every major metro in the company's *21-state footprint*." (emphasis added)); *One Powerful Decade: FiOS Turns 10!*, VERIZON (Sept. 5, 2014), http://www.verizon.com/about/news/onepowerful-decade-fios-turns-10 (noting that FiOS deployments are limited to Verizon's ILEC footprint of "12 states and the District of Columbia"); Cindy Whelan, Current Analysis, "CenturyLink Launches Fiber Infrastructure, Portfolio to Get a Jump on Broadband Competitors," at 2, (Aug. 11, 2014), http://www.centurylink.com/business/asset/white-paper/current-analysis-fiber-infrastructurereport- wp141271.pdf (last visited Feb. 17, 2016) ("CenturyLink's deployment is limited to areas where the company has an incumbent local carrier footprint."). *See also* Opposition of AT&T Services, Inc. at 23, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015) (noting Project Velocity IP is focused on "its 21 state [ILEC] footprint"); Comments of CenturyLink at 11, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015) (acknowledging that CenturyLink "must rely on other wholesale providers" for last-mile access outside of its ILEC footprint).

65 *See supra* n. 5.

be addressed with last-mile fiber, because "that does not mean that the broadband service provider is capable of serving -- or intends to serve, even with incremental support -- all of the households in that census block."[66]

The Data Request also conveys the size of the chasm between having competitive fiber somewhere in a census block and actually providing competitive service. Far from being "ubiquitous," last-mile facilities owned by competitive providers are in ~~***BEGIN HIGHLY CONFIDENTIAL***~~ fewer than 23 percent ~~***END HIGHLY CONFIDENTIAL***~~ of all business locations.[67] Overall, ~~***BEGIN HIGHLY CONFIDENTIAL***~~ approximately 98 percent of all customers locations have no more than two in-building facilities-based providers. ~~***END HIGHLY CONFIDENTIAL***~~[68] In only ~~*** BEGIN HIGHLY CONFIDENTIAL ***~~ 0.5 percent ~~***END HIGHLY CONFIDENTIAL***~~[69] of all customer locations are there four or more facilities-based providers, which has been considered by the Commission and the antitrust authorities as the threshold number of providers sufficient for meaningful competition.[70] Dr. Baker's regression analysis confirms that ~~*** BEGIN HIGHLY~~

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66 CenturyLink Opposition at 8.

67 *See* Baker Declaration Table 1.

68 *See id.*

69 *See id.*

70 *See, e.g.*, *Applications of AT&T Inc. and Centennial Communications Corp.; For Consent to Transfer Control of Licenses, Authorizations, and Spectrum Leasing Arrangements*, Memorandum Opinion and Order, FCC 09-97, 24 FCC Rcd. 13,915, 13,948 ¶ 76 (2009) ("After performing a market-by-market analysis, we find, in the great majority of the 27 markets identified by the initial screen, no competitive concerns requiring remedy. For instance, in most of these markets, there would be *four or more competitors* present post-transaction with thoroughly built-out networks and the ability to offer competitive services." (emphasis added)); Complaint at 18-19, *U.S. v. AT&T, Inc.*, No. 1:11-CV-01560 (D.D.C. filed Aug. 31, 2011) ("In the national market for mobile wireless telecommunications services provided to enterprise and government customers, the proposed transaction effectively would reduce the number of significant competitors *from four to three*. . . . The

~~**CONFIDENTIAL** ***~~ the number of actual in-building competitors is much more significant than the presence of a nearby competitor in constraining prices. As Dr. Baker explains, "the cumulative effect of four or more in-building providers in lowering ILEC retail prices is more than triple the cumulative effect of four or more nearby providers." ~~***END HIGHLY CONFIDENTIAL***~~[71]

For purposes of its analysis, the Commission, therefore, should not treat the number of competitive providers who have fiber of any kind anywhere in the same census block as market participants. Consistent with the Commission's past approach,[72] the relevant geographic market for analyzing competition for dedicated services is the customer's individual building.[73] The large ILECs' alternate scenario effectively expands the geographic market and produces misleading results that grossly overstate the degree of competition.[74]

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reduction in the number of bidders for enterprise and government contracts *to three* . . . significantly increases the risk of anticompetitive effects.") (emphasis added)).

71 Baker Reply Declaration ¶ 10.

72 *See* Joint CLEC Comments at 19 (citing *Verizon Communications Inc. and MCL Inc. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, FCC 05-184, 20 FCC Rcd. 18,433, 18,500 ¶ 128 (2005) ("Consistent with Commission precedent and the record before us, we conclude that the relevant geographic market for wholesale special access services is a particular customer's location, since it would be prohibitively expensive for an enterprise customer to move its office location in order to avoid a 'small but significant and nontransitory' increase in the price of special access service.").

73 *See* Sprint Comments at 18-19 (citing economists' conclusion that the relevant special access geographic market is at the building level); *id.* at 19 ("The GAO likewise found that 'the extent of competitive entry in a market [should be analyzed] at the level of individual buildings.'").

74 This is particularly true with respect to Verizon's arguments, which as Dr. Baker notes, appear to be based on the even more misleading proposition that CLEC deployment of fiber anywhere in a metropolitan area—which is much broader than a census block—renders large swathes of that metropolitan area competitive. *See* Baker Reply Declaration ¶ 5 (discussing Verizon Comments at 2, 20-22, 25).

Finally, even if one were to accept the large ILECs' view that any competitor present within a census block is an actual immediate competitor, the ILEC is still the only provider in ~~*** BEGIN HIGHLY CONFIDENTIAL ***~~ approximately 58 percent ~~***END HIGHLY CONFIDENTIAL**~~ of census blocks in which special access services are supplied, and ~~*** BEGIN HIGHLY CONFIDENTIAL ***~~ more than 95 percent ~~***END HIGHLY CONFIDENTIAL***~~ of such census blocks have no more than two facilities-based providers that have any customers in that census block.[75] This level of competition falls short of what the Commission and other antitrust authorities have deemed to be sufficient.

D. Large ILECs Fail to Provide Any Evidence that a Duopoly Is Sufficient to Prevent Them from Exercising Market Power.

Well-recognized principles of competition analysis and the data in the record firmly establish the lack of facilities-based competition facing the overwhelming majority of customers of dedicated services. However, even if the Commission ignores all of that evidence and accepts at face value the most ambitious assertion made by the large ILECs—that the presence of competitive facilities anywhere in a census block means there is current competition—the number of competitors still is well below what is needed to produce competitive outcomes. The percentages of census blocks in which the large ILECs confidently conclude competition exists are based on the presence of as few as one other provider with its own fiber.[76] But the large ILECs have offered the Commission no reason to doubt that the suppliers in these (at best) duopoly conditions can still exercise market power to the detriment of dedicated services

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[75] *See* Baker Declaration Table 1. *See also* Sprint Comments at 17-18 (same).

[76] *See* Israel et al. at 4 ("[E]ven if only a single competitor has deployed facilities to just one building in a far corner of a census block, that competitor generally would be able to extend those facilities to all or most other buildings . . . in that census block, and thus could compete for business at those other locations as well.").

customers. Instead, they ask the Commission to assume that the presence of an additional provider is enough to offer meaningful competition.[77]

The record in this proceeding demonstrates that this assumption is wrong, and that Commission action is needed to unlock actual competition. Both economic theory and the Data Request show that more than two competitors are necessary to produce actually competitive outcomes. The analysis performed by Drs. Besen and Mitchell and submitted by Sprint concluded that "several suppliers—'likely [] four—and certainly more than two'—that actually compete with one another in a limited geographic area" are needed for competitive outcomes.[78] Drs. Besen and Mitchell cited "[a] substantial body of empirical evidence conclud[ing] that high firm concentration often leads to higher prices,"[79] before they then concluded, based on the Data Request, that "the market shares of the ILECs . . . generally far exceed the levels at which large firms are able to raise prices above competitive levels."[80]

Dr. Baker's economic analysis also presented the generally accepted view in the literature that "[m]arkets with two providers . . . are also unlikely to perform competitively."[81] Dr. Baker explained that "in many cases, one of the two firms will provide no more than a limited constraint on the prices charged by the other," because the competitive provider experiences "substantial impediments to expanding output, including high marginal costs of serving another

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77 *See, e.g.*, AT&T Comments at 17 ("[E]ven if only a single competitor had deployed services to just one far corner of a census block with special access demand, it could still compete for customers in a large portion of the census block.")

78 Sprint Comments at 24 (quoting Declaration of Stanley M. Besen and Bridger M. Mitchell ¶ 47, Attachment to Sprint Comments ("Besen/Mitchell Declaration")). *See also* TDS Comments at 17 ("[A] duopoly is not sufficient to constrain prices.").

79 Besen/Mitchell Declaration ¶ 43.

80 *Id.* ¶ 47.

81 Baker Declaration ¶ 48.

customer in a building."[82] In the face of these costs, the competitive provider "would not have an incentive to compete aggressively with the ILEC on price."[83] The impediments to output expansion even on the same block include "the building owner refus[ing] to grant the CLEC access or charg[ing] a high fee" and the difficulty of obtaining rights of way to a specific building.[84] Thus, even the presence of a second dedicated services provider on the same block does not necessarily mean that the second provider can discipline an ILEC price increase.

The Commission's prior decisions also have recognized that multiple—at least three—competitors are needed in addition to the incumbent to produce competitive prices. In the *Qwest Phoenix Forbearance Order*, for example, the Commission noted that it had previously considered the presence of four total competitors in a market as evidence that a provider was not dominant.[85] The Commission has used the same rule of thumb when assessing the degree of

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82 *Id.* ¶ 49.

83 *Id.*

84 *Id.* ¶ 79

85 *See Qwest Phoenix Forbearance Order* at 8625 ¶ 7 ("Among the factors the Commission cited in support of its [non-dominance] finding were . . . AT&T faced at least three nationwide facilities-based providers and hundreds of smaller competitors . . . .").

competition in other contexts.[86] When fewer competitors are present, the Commission found that consumers may be subject to consistently high service prices.[87]

The predictions of how these competition-limiting factors affect prices in the dedicated services markets is borne out in the Data Request. The regression analysis performed by Dr. Baker using the Data Request reveals the unsurprising conclusion that ~~***BEGIN HIGHLY CONFIDENTIAL***~~ the presence of multiple competitors has a far greater effect on price than having just one competitor in addition to the ILEC. In his regressions, Dr. Baker found that the addition of one other in-building competitor in addition to the ILEC reduces ILEC prices by 0.10 percent, while the fourth competitor reduces ILEC retail prices by 12.2 percent over having just three in-building competitors. ~~***END HIGHLY CONFIDENTIAL***~~[88] ~~***BEGIN HIGHLY CONFIDENTIAL***~~ Competitive providers who have nearby facilities (i.e., within the same census block or a census block within 0.5 miles), but do not actually serve the location

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[86] *See 2014 Quadrennial Regulatory Review—Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996*, Notice of Proposed Rulemaking, FCC 14-28, 29 FCC Rcd. 4371, 4394 ¶ 54 (2014) ("[W]e continue to believe that it is appropriate to retain the eight-voices test, which helps to promote *at least four independent competitors* before common ownership is allowed." (emphasis added)); *Applications of AT&T Inc. and Atlantic Tele-Network, Inc.*, Memorandum Opinion and Order, DA 13-1940, 28 FCC Rcd. 13,670, 13,693 ¶ 44 (Wireless Telecomms. Bur. & Int'l Bur. 2013) ("Post-transaction, we also note that AT&T and Verizon Wireless would be the only two service providers that would have both a significant market share and significant total coverage in terms of population and land area in the markets. . . . [W]e find that the proposed transaction would likely lessen competition in these five rural markets, and thus would likely harm the public interest."); *1998 Biennial Regulatory Review Spectrum Aggregation Limits for Wireless Telecommunications Carriers et al.*, Report and Order, FCC 99-244, 15 FCC Rcd. 9219, 9255 ¶ 80 (1999) ("When the allocated spectrum is fully used, this aggregation limit allows for at least four mobile telephone service providers in each area.").

[87] *See Qwest Phoenix Forbearance Order* at 8637-38 ¶ 31 ("The Commission also has noted that high and stable prices for wireless service existed during the period of duopoly, but that such prices dropped dramatically as new PCS competitors began to launch service.").

[88] Baker Declaration ¶ 57 & Table 2.

have a far more muted effect on ILEC prices. The *cumulative* effect of having four or more facilities-based providers nearby is only a 3.68 percent reduction in the ILEC's retail prices. ~~***END HIGHLY CONFIDENTIAL***~~[89] In the face of the evidence in the record, the large ILECs' contention that "extensive competition" exists in a duopoly is simply implausible.

III. THE LARGE ILECS RECOGNIZE THE IMPORTANCE OF DISCOUNTS, BUT ARE FUNCTIONALLY ELIMINATING OR CURTAILING THEM ON ETHERNET TO CREATE AN EXCLUSIONARY PRICE SQUEEZE.

Congress, the Commission, the courts, economists, customers, and competitive carriers in this proceeding, and even the large ILECs themselves, have all acknowledged the benefits of wholesale discounts for promoting competition and for passing through to customers the efficiencies created by term and volume commitments made by wholesale buyers. Likewise, the harm to competition caused by raising wholesale prices for necessary inputs, and the resulting price squeeze on competitors, is also well known to academics, regulators, and market participants alike. As discussed below, the record in this proceeding leaves no doubt that a price squeeze is occurring in the markets for dedicated services. The solution proposed by Windstream and others—that the Commission needs to abate further anticompetitive and unreasonable conduct that is contrary to the wholesale discount requirement of the Communications Act—is not only supported by the Act, Commission precedent, and economic theory, but also by the arguments made by the large ILECs themselves in favor of wholesale term and volume commitments.

[89] *See id.* ¶ 63 & Table 2.

A. Multiple Economists Reaffirm the 1996 Act's and the Commission's Findings that ILECs May Attempt to Crush Competition with a Wholesale-versus-Retail Price Squeeze.

Both the Telecommunications Act of 1996 and the Commission acknowledged and addressed the potential for price squeezes that could exclude competition. The 1996 Act requires ILECs to make all telecommunications services available for resale at retail rates, less avoided costs,[90] and it places an affirmative duty on local exchange carriers—whether ILECs or CLECs—to avoid imposing unreasonable or discriminatory conditions or limitations on resale of their telecommunications services.[91] The Commission itself has recognized that a firm with market power in the wholesale market for necessary inputs has "the incentive and ability" to "raise rivals' costs,"[92] and that "incumbent carriers could strategically manipulate the price of their direct competitors' wholesale inputs to prevent competition in the downstream retail market."[93]

These large ILEC tactics have a pernicious effect with respect to competition for both single location and multilocation business customers, and to CLECs' ability to accrete a sufficient customer base in a building prior to deciding to build out additional fiber facilities. As Dr. Baker describes, when a CLEC cannot serve all of that customer's locations from its own

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90 *See* 47 U.S.C. § 251(c)(4), 252(d)(3).

91 *See* 47 U.S.C. § 251(b)(1).

92 *See Qwest Phoenix Forbearance Order* at 8639 ¶ 34. *See also Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area*, Second Report and Order, FCC 97-142, 12 FCC Rcd. 15,756, 15,803 ¶ 83 (1997) ("[A] carrier may be able to raise prices by increasing its rivals' costs or by restricting its rivals' output through the carrier's control of an essential input, such as access to bottleneck facilities, that its rivals need to offer their services.").

93 *Unbundled Access to Network Elements and Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, FCC 04-290, 20 FCC Rcd. 2533, 2570 ¶ 63 (2005).

facilities, it will often be reliant on the ILEC's facilities. In that situation, when the vertically integrated ILEC sells its key last-mile input to downstream rivals, "it can exclude those rivals and harm retail competition by setting a high wholesale price relative to its retail price (*i.e.*, by creating a 'price squeeze')."[94] Moreover, "[i]n dedicated services markets, an ILEC that benefits from foreclosing retail competition may recognize that benefit when setting the wholesale price where it has pricing flexibility or sells dedicated services not subject to ex ante price regulation."[95]

Similarly, as Dr. Steven Salop has pointed out, "a refusal to deal or price squeeze might be used by a vertically integrated monopolist to maintain its (upstream) input market monopoly by raising barriers to entry to (downstream) output market competitors that might use that toehold in order to enter the input market."[96] With special access, a CLEC like Windstream may not initially build to a customer location, particularly for a customer with only a smaller amount of demand at that location; instead, it can add some customers through resale while it evaluates whether there are other potential customers at the location that would justify a build. The ILECs' price squeezes short-circuit this dynamic.

Finally, it is important to note that neither *LinkLine* nor *Trinko* preclude the Commission from taking action to enforce the Communications Act.[97] Both those cases addressed situations in which there was no duty to deal under the antitrust laws, without addressing any such duty

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94 Baker Reply Declaration ¶ 15.

95 Baker Reply Declaration ¶ 16.

96 Steven C. Salop, *Refusals to Deal and Price Squeezes by an Unregulated, Vertically Integrated Monopolist*, 76 Antitrust L.J. 709, 711 n.7 (2010). *See also* Baker Reply Declaration ¶ 16.

97 *See Pac. Bell Tel. Co. v. LinkLine Commc'ns,* 555 U.S. 438 (2009); *Verizon Commc'ns Inc. v. Law Office of Curtis V. Trinko*, *LLP*, 540 U.S. 398 (2004).

under the communications laws. And as Justice Breyer noted in his concurrence in *LinkLine*, the party complaining of the price squeeze, "could have gone to the regulators and asked for petitioners' wholesale prices to be lowered in light of the alleged price squeeze."[98] That is exactly what Windstream is doing here.

B. The Comments Confirm that Large ILECs Are Charging More for Ethernet Capacity When Offered on a Wholesale Basis

The comments show that large ILECs are using their control of wholesale packet-based dedicated services inputs to tighten their vice grip in the downstream retail markets, particularly for lower bandwidth services.[99] Windstream has detailed the various ways in which large ILECs are raising their rivals' costs to such levels that they are unable to compete effectively for retail customers.[100] The large ILECs complete this price squeeze by offering their own retail services that use those inputs at rates that put unsustainable pressure on competitors' margins or, even worse, at rates that are lower than wholesale prices.[101] Even when a competitive provider is able to obtain a small wholesale discount by making extraordinary commitments compared to the

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98 *LinkLine*, 555 U.S. at 459 (Breyer, J., concurring).

99 *See* TDS Comments at 23-29; Loch Second Declaration ¶¶ 19-20; Windstream Dedicated Services Comments at 49-56; Windstream Declaration ¶¶ 86-96; XO Comments at 40-43; Anderson Declaration ¶¶ 20-23.

100 *See* Windstream Dedicated Services Comments at 49-56; Windstream Declaration ¶¶ 86-105.

101 *See* Windstream Dedicated Services Comments at 50-51. ***BEGIN HIGHLY CONFIDENTIAL*** [redacted]. ***END HIGHLY CONFIDENTIAL*** *See* Windstream Declaration ¶ 95. *See also* Loch Second Declaration ¶¶ 18-24.

retail user,[102] those terms can be unilaterally revoked by the ILEC.[103] Moreover, ILECs are charging far more for comparable wholesale inputs when they transmit traffic in an IP, rather than TDM, format, especially at lower speed tiers, even though there is no cost-based justification for the higher prices.[104] The end result is that as the IP transition progresses, the ILECs are using the customer-by-customer pricing flexibility they have claimed for Ethernet services to stave off competition.[105]

The experiences of other CLECs reflect Windstream's own. In particular, XO explained in its comments that AT&T's wholesale Ethernet prices are so high that where XO must rely on AT&T for Ethernet inputs, XO's own retail prices are pushed to be approximately *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** higher on average than AT&T's retail prices.[106] Importantly, this percentage *****BEGIN HIGHLY CONFIDENTIAL***** [redacted]

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[102] *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** Windstream Dedicated Services Comments at 50; Windstream Declaration ¶ 94.

[103] *See* Windstream Dedicated Services Comments at 51-52.

[104] *See* Windstream Dedicated Services Comments at 52-53. *See also* Ad Hoc Comments at 14-15 (emphasizing the importance of lower bandwidth Ethernet services to its members).

[105] *See* Windstream Dedicated Services Comments at 54-56 (*****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****).

[106] *See* XO Comments at 43. *See also* Joint CLEC Comments at 5 ("[I]ncumbent LECs have powerful incentives to set wholesale prices high so as to place competitors in a price squeeze.").

[redacted] ***END HIGHLY CONFIDENTIAL***[107]

Likewise, TDS described the impact of wholesale Ethernet input prices that are higher than retail prices on its ability to compete for customers: "Ethernet purchased from the RBOCs at unregulated rates does not offer a cost-effective solution to meet the needs of the vast majority of SMBs."[108] Indeed, TDS stated in the declaration supporting its comments that, based on a comparison of the "RBOC wholesale rates currently offered to TDS CLEC and the RBOC retail rates" quoted to TDS's existing and prospective customers and reviewed by the declarant, "the wholesale rates available to TDS CLEC are typically higher."[109]

C. Multiple Commenters Recognize the Need for Commission Action to Stop Large ILECs' Noncompliance with the 1996 Act.

Multiple commenters agree that the Commission should enforce the Telecommunications Act of 1996's competition-promoting mandate that ILECs must offer telecommunications services at wholesale rates that are not only below retail rates, but also pass on to carrier customers the savings incurred (i.e., costs avoided) from selling at wholesale rather than retail. As the Joint CLECs and Windstream noted, Sections 251(c)(4) and 252(d)(3) of the Communications Act require ILECs to make available packet-switched dedicated services, when offered "at retail," to wholesale purchasers at rates that are no higher than the retail price minus "the portion thereof attributable to any marketing, billing, collection, and other costs that will be

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[107] *See* Anderson Declaration ¶ 22.

[108] TDS Comments at 28. *See also* Windstream Dedicated Services Comments at 55-56 (describing the consequences of the same margin pressure on Windstream's SMB business).

[109] Loch Second Declaration ¶ 19.

avoided" by the ILEC.[110] Enforcing the Communications Act's discount requirement passes through the cost savings, generated by the efficiencies of selling telecommunications services on a wholesale basis, to the benefit of the larger communications ecosystem; but if it is not enforced, ILECs can thwart competition by raising their rivals' costs.[111] To fully account for the efficiencies created by wholesale arrangements, the Commission's rules that detail cost categories as the basis for avoided cost discounts should not be viewed as exhaustive.[112] As Windstream urged in its comments, the Commission should also take into account the benefits ILECs attain from longer term and/or volumes of wholesale arrangements.[113] XO similarly urges the Commission to ensure that wholesale special access discounts relative to retail rates should not be less for packet-based dedicated services than for what has been traditionally provided for TDM special access.[114]

As observed by several commenters, current ILEC Ethernet wholesale prices are so high that CLECs are unable to compete unless they own or economically can build their own last-mile facilities, which the record shows is impossible at most locations.[115] The examples cited by XO

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[110] Windstream Dedicated Services Comments at 69-71 (quoting 47 U.S.C. sec. 252(d)(3)); Joint CLEC Comments at 67. *See also* TDS Comments at 26 ("The higher wholesale prices demanded by the RBOCs that TDS CLEC competes with are unjust and unreasonable, in violation of § 201(b), and unreasonably discriminatory, in violation of § 202(a).").

[111] *See supra* nn. 92-93.

[112] Windstream Dedicated Services Comments at 74 (citing 47 C.F.R. § 51.609).

[113] Windstream Dedicated Services Comments at 73.

[114] XO Comments at 57. *See also* Windstream Dedicated Services Comments at 74-75 ("As a means of evaluating the degree to which added term and volume reduces ILEC costs, the Commission could, for example, consider the pattern of discounts that ILECs have offered for TDM special access services—whereby carrier customers that make longer term and volume commitments on a wholesale basis have received additional discounts on last-mile inputs used for provisioning retail offerings at shorter durations.")

[115] *See* TDS Comments at 28; Declaration of Matthew J. Loch on Behalf of TDS Telecommunications Corporation ¶¶ 5, 8, attached to Letter from Thomas Jones, Counsel for

and TDS, as noted above, exemplify how, if the large ILECs continue to use their control of last-mile inputs to raise their rivals' costs, either the retail prices from both ILECs and CLECs will be at a supracompetitive level, or CLECs will have to exit the markets for those services entirely, which in turn allows the large ILECs to raise prices on their own retail customers.[116] This is contrary to the Commission's objectives of "ensuring that as technology transitions proceed, end users do not lose service and continue to have choices for communications," and "preserv[ing competitive carriers'] contributions to the market, which can include lower prices, higher output, and increased innovation and quality."[117]

But if the ILECs are required to release their single-handed grip on the efficiencies created by wholesale arrangements, large ILEC business customers will benefit from greater competition and increased fiber investment from both ILECs and CLECs. The Joint CLECs correctly summarize the importance of decisive Commission action to stop anticompetitive wholesale pricing practices:

> [T]he Commission could enable a 'virtuous cycle' of innovation and investment in the business services marketplace. Competitors would be able to develop innovative higher-layer services that meet the diverse needs of business customers around the country. This would spur an increase in the demand for last-mile capacity, providing both incumbent and competitive LECs with greater incentives to deploy fiber to business customer locations, consistent with the goals of Section 706.[118]

TDS Telecommunications Corporation, to Marlene H. Dortch, Secretary, FCC (filed June 22, 2015); XO Comments at 5; Anderson Declaration ¶¶ 22-23.

[116] *See* TDS Comments at 3 ("Wholesale customers, including TDS CLEC, who must pay unjust, unreasonable, above-retail rates for wholesale inputs cannot apply any competitive pressure on the RBOCs' retail rates."); XO Comments at 43.

[117] *Technology Transitions*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, FCC 15-97, 30 FCC Rcd. 9372, 9428 ¶ 101 (2015).

[118] Joint CLEC Comments at 69.

These comments reaffirm Chairman Wheeler's recognition that "when CLECs offer competitive services, it creates an incentive for incumbents to invest more in their networks and offer better services to win their share of business customers. This is good, and another example of the virtuous cycle of network innovation."[119]

D. The Large ILECs' Pricing Practices Even Contradict Their Own Acknowledgments that Discounts Enhance Economic Efficiencies, Benefit Consumers, and Are Appropriate for the Pricing of Special Access Services.

While refusing to provide carrier customers discounted Ethernet rates that reflect cost savings created by the customers' wholesale purchasing arrangements, the large ILECs ironically emphasize in their tariff investigation direct cases, submitted just weeks ago, that providing term and volume discounts promotes economic efficiencies, benefits consumers, and is appropriate for the pricing of special access services. The large ILECs' appeals to legal and academic authority, as well as their statements about their own experiences, all also apply to the wholesale pricing of packet-based dedicated services inputs, and thus support Windstream's request for Commission action to promote competition by enforcing the discounting requirements of the Communications Act, including requiring that discounts reflect the cost savings and benefits from purchasing arrangements involving larger volumes and/or longer terms.

The large ILECs' direct cases point to extensive legal and policy precedent for the finding that special access volume and term discounts generate economic benefits. AT&T observes that "the courts, the Commission, and economists have overwhelmingly recognized that term and volume discounts are generally pro-competitive and appropriate in the special access

[119] Remarks of FCC Chairman Tom Wheeler, COMPTEL Fall Convention & Expo (Oct. 6, 2014).

marketplace,"[120] and that "the Commission has held repeatedly that term and volume commitments are typically pro-competitive and, specifically, that they are appropriate for the pricing of special access services."[121] Likewise, Verizon observes that Commission precedent recognizes that "volume and term discounts have procompetitive effects."[122]

The large ILECs' own declarations support Windstream's position that the large ILECs should not be allowed to appropriate for themselves all the cost savings and benefits of volume and term commitments on packet-based services. According to Verizon, its discount plans "promote economic efficiency and are procompetitive. These plans allow Verizon to share with customers the efficiencies it achieves from reduced administrative costs and greater business certainty."[123] Verizon argues that volume commitments "reduce transactions costs, permit nonrecurring costs to be recovered over a longer period, reduce uncertainty, (including by limiting the possibility of *ex post* opportunistic behavior), help realize economies of scale, and assist the seller in making appropriate investments in, and allocations of, capacity."[124] "Longer term lengths," according to Verizon, are "associated with larger discounts, as the increased term length provides greater certainty, reduces further the risk of stranded investment, and provides a

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[120] *See* Brief of AT&T Inc. in Support of Its Direct Case at 5-6, WC Docket No. 15-257 (filed Jan. 8, 2016) ("AT&T Direct Case").

[121] *Id*. at 28.

[122] Direct Case of Verizon at 11, WC Docket No. 15-247 (filed Jan. 8, 2016) ("Verizon Direct Case"). Among other decisions, Verizon cites a Commission order recognizing that "term discounts . . . can minimize the risk of stranded investment." *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, FCC 96-325, 11 FCC Rcd. 15,499, 15,849 ¶ 687 (1996).

[123] Verizon Direct Case at 12-13 (citing Declaration of Eric R. Emch, Ph.D. and Donald K. Stockdale, Jr. J.D., Ph.D. ¶¶ 46-52, attached to Verizon Direct Case ("Emch/Stockdale Declaration")).

[124] Emch/Stockdale Declaration ¶ 50.

longer period over which to spread any nonrecurring costs."[125] Thus, Verizon asserts, "[n]ot only are volume and term discounts pervasive, but they also are generally viewed as beneficial to both the buyer and seller. The seller may benefit by aligning prices more closely with costs, or simply by gaining profitable sales from rivals by offering a more attractive package. Buyers gain lower prices in return for providing more certainty to the seller."[126] Likewise, AT&T cites its economists' findings for the assurance that special access "discounts are commonplace and can benefit consumers and enhance economic efficiency in a variety of ways," and concludes that "term discounts are legitimate pro-competitive responses to competition that benefit both providers and customers."[127]

CenturyLink echoes these points and focuses on implications for network investment in particular. While recognizing its own benefits from discount plans,[128] CenturyLink agrees that

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[125] Verizon Direct Case at 35.

[126] Emch/Stockdale Declaration ¶ 48. Similarly, the large ILECs have recognized that network cost savings should flow through to customers in the intercarrier compensation context. *See, e.g.*, Reply Comments of Verizon and Verizon Wireless at 18-22, WC Docket Nos. 10-90, 07-135, 05-337, 03-109, GN Docket No. 09-51, CC Docket Nos. 01-92, 96-45 (filed May 23, 2011) ("[C]onsumers benefit from the efficiencies achieved when pricing signals in the market more closely reflect the costs of the services and products consumers demand."); Comments of AT&T Inc. at 18, WC Docket Nos. 05-337, 03-109, 06-122, 04-36, CC Docket Nos. 96-45, 99-200, 96-98, 01-92, 99-68 (filed Nov. 26, 2008) (asserting that "under elementary principles of economics," long distance and wireless companies will pass on intercarrier compensation savings to consumers).

[127] AT&T Direct Case at 51 n.159 (citing Reply Declaration of Dennis W. Carlton, Allan L. Shampine and Hal S. Sider in Support of AT&T, Inc. ¶¶ 75-83, attached to Reply Comments of AT&T, Inc., WC Docket No. 05-25 (filed Feb. 24, 2010)).

[128] *See* CenturyLink White Paper at 33 (stating that volume commitments provide it "with the benefits of revenue predictability for an agreed period of time, allowing it to recover its costs over the life of the plan"); *id.* at 31 ("By offering a discount and then applying terms designed to encourage customers to use a quantity of service roughly equivalent to the amount it elected to purchase at the beginning of the term, CenturyLink essentially 'purchases' a degree of certainty that allows it to marshal network resources to accommodate anticipated demand, plan informed network expansion, and reduce marketing and other transaction costs that it would incur in the absence of customer commitments."); *id*. at iii

the plans provide cost savings that it (and other large ILECs) can pass on to a wholesale purchaser: "The predictability and stability of revenue facilitates CenturyLink's business and investment planning, generating efficiencies and savings, which it can share with the customer in the form of a discounted rate."[129] Indeed, CenturyLink contends that discount plans promote the Commission's larger investment objectives "by providing the business certainty for ILECs, CLECs, and wireless providers that allows for rational network planning and sustained capital investment" throughout the communications ecosystem.[130]

Against this backdrop, it is particularly striking that the large ILECs offer only very limited term discounts for Ethernet services. AT&T's Guidebook, for its Switched Ethernet Service (Interactive), for example, does not provide further term discounts for service terms beyond three years, even though for TDM services it has offered additional discounts and circuit portability for five- or seven-year options. *****BEGIN HIGHLY CONFIDENTIAL*****

[redacted]

*****END HIGHLY CONFIDENTIAL***** This is in

("Courts and commentators have made clear that long-term supply contracts *promote* competition and consumer interest by enhancing stability and certainty in the marketplace." (emphasis in the original)).

[129] *Id.* at 33.

[130] *Id.* at 2. CenturyLink's conclusion that discount plans can "advance competition and promote the Commission's deployment goals" is a particularly significant finding in light of the Commission's conclusion just three weeks ago that "advanced telecommunications capability is not being deployed to all Americans," including businesses, in a reasonable and timely fashion. CenturyLink White Paper at i; *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, 2016 Broadband Progress Report, FCC 16-6 ¶¶ 1, 4 (2016).

contrast to Verizon's TDM special access tariffed offerings, which include five-year and seven-year options with higher discounts and circuit portability. These different pricing practices exacerbate the price squeeze on CLECs with respect to Ethernet services because, as Windstream explained in its comments, this means competitive carriers and their customers cannot share the cost savings and benefits that flow from longer term and higher volume commitments.[131]

IV. CONCLUSION

The large ILECs attempt to distract this Commission and obscure the core truth—that they retain significant market power with respect to dedicated services. As ILECs' own market behavior shows, best efforts services are not substitutes for dedicated services for businesses, government entities, and non-profits that need the bandwidth commitments, greater network availability, service quality, and other attributes of such services. The large ILECs have introduced their own best efforts services to serve customers with fewer requirements, and maintain significantly different prices for their dedicated services—which are priced much higher than best efforts. Similarly, the large ILECs own deployment behavior refutes their contention that once a competitive provider has fiber anywhere in a census block, it can easily serve any location in that census block. That is simply untrue.

The comments also confirm that the large ILECs have been executing price squeezes on their competitors, in violation of Sections 251(b)(1), 251(c)(4) and 252(d)(3) of the Communications Act. The Commission has the authority and jurisdiction to address and prevent these price squeezes, including ensuring that the large ILECs pass on the cost savings and benefits they achieve when a wholesale purchaser makes significant volume and term commitments. By so doing, in addition to what other steps it might take, the Commission can

[131] Windstream Dedicated Services Comments at 75-77.

help preserve competitive choices for businesses, government entities, and non-profits that need Twenty-First Century communications solutions to carry out their missions.

Respectfully submitted,

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February 19, 2016

ATTACHMENT C

REDACTED – FOR PUBLIC INSPECTION

HWG | HARRIS, WILTSHIRE & GRANNIS LLP

March 14, 2016

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

Re: *Technology Transitions*, GN Docket No. 13-5; *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; *Special Access for Price Cap Local Exchange Carriers*, WC Docket No. 05-25; *AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, RM-10593; *Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans*, WC Docket No. 15-247

Dear Ms. Dortch:

On March 10, 2016 Jennie Chandra and Malena Barzilai of Windstream Services, LLC ("Windstream") and John Nakahata and Henry Shi of Harris, Wiltshire, & Grannis LLP, counsel to Windstream, met with Madeleine Findley, Daniel Kahn, and Peter Saharko, all of the Wireline Competition Bureau; and separately with Eric Ralph (by telephone), Deena Shetler (by telephone), Pamela Arluk, William Kehoe, Christopher Koves, Virginia Metallo, Thom Parisi, Joseph Price, Christine Sandquist, and David Zesiger of the Wireline Competition Bureau regarding the above-referenced proceedings.

I. The Commission Should Grant Windstream's Petition to Confirm the Continued Availability of Unbundled DS1 and DS3 Capacity Loops.

In the meeting with Ms. Findley and Messrs. Kahn and Saharko, Windstream urged the Commission to grant Windstream's declaratory ruling petition in order to help ensure that the current competition options available to small business, government, and nonprofit customers of dedicated services will be unaffected by a change in transmission protocol from TDM to IP or by the use of fiber.[1] We noted that we had raised this issue in Docket No. 05-25 as well, as it interrelates with and is an important part of maintaining just and reasonable rates for last-mile

[1] *See* Petition for Declaratory Ruling of Windstream Corporation, GN Docket No. 13-5 (filed Dec. 29. 2014) ("Windstream Petition").

connections, including for dedicated business data services. As Windstream had highlighted when it filed its petition, the availability of unbundled DS1 and DS3 capacity loops was a foundational premise and justification for the Commission's prior grants of forbearance with respect to specified packet-based services.[2] The time is ripe for the Commission to act on disputes regarding these loops. Over the past year, commenters have poured into the record factual information and legal analyses in support of Windstream's petition,[3] and opponents have not identified any unaddressed issues that would prevent the Commission from promptly reaching a resolution.

Several state public utilities commissions have recently asked the Commission to grant Windstream's petition. These filings add further support to the legal basis for Windstream's petition, and also emphasize the importance of unbundled DS1 and DS3 capacity loops to competition in their communities.[4] Windstream shares the concern expressed by the state

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2 *See id.* at 18-19.

3 *See, e.g.*, Comments of Public Knowledge *et al.* at 16, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket Nos. 05-25, 15-1, RM-11358, RM-10593 (filed Feb. 5, 2015); Comments of XO Communications on the Tech Transitions Notice of Proposed Rulemaking and on the Petition for Declaratory Ruling of Windstream at 27-28, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket Nos. 05-25, 15-1, RM-11358, RM- 10593 (filed Feb. 5, 2015); Comments of the Ad Hoc Telecommunications Users Committee at 20-21, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket Nos. 05-25, 15-1, RM-11358, RM-10593 (filed Feb. 5, 2015); Comments of COMPTEL at 37-39, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket Nos. 05-25, 15-1, RM-11358, RM-10593 (filed Feb. 5, 2015); Comments of Birch, Integra, and Level 3 at 39-40, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket Nos. 05-25, 15-1, RM-11358, RM-10593 (filed Feb. 5, 2015); Joint Comments of Grande Communications Networks LLC and U.S. TelePacific Corp. at 2-4, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015); Comments of Granite Telecommunications, LLC Supporting Windstream's Petition for Declaratory Ruling at 2-3, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015); Comments of the Pennsylvania Public Utility Commission at 3, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015); Reply Comments of the Vermont Public Service Board & Vermont Public Service Department at 2-3, WC Docket NO. 15-1, GN Docket No. 13-5 (filed Feb. 27, 2015); Comments of NTCA—The Rural Broadband Association at 4 n.3, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket No. 05-25, RM-11358, RM-10593 (filed Feb. 5, 2015).

4 *See* Letter from James Volz, Chairman, et al., Vermont Public Service Board, to Marlene H. Dortch, Secretary, FCC, at 2, WC Docket No. 15-1 (filed Mar. 3, 2016) ("Vermont PSB Ex Parte"); Letter from Crystal Rhoades, Commissioner, et al., Nebraska Public Service Commission, to Marlene H. Dortch, Secretary, FCC, at 2, WC Docket No. 15-1 (filed Feb. 23, 2016); Letter from Steven V. King, Executive Director and Secretary, Washington

commissions about the impact of the ILECs' elimination of DS1 and DS3 capacity loops on small business and government customers.[5] Many of these types of customers, such as the University of Arkansas Medical Center, require the performance of dedicated services at many locations, and are able to redirect the cost savings made possible through competitive offerings toward further investments in fulfilling their public service missions.[6]

Filings in the business data services proceeding further confirm that DS1 and DS3 capacity loops continue to play a critical role in fostering competition for lower-bandwidth dedicated services customers who otherwise would have the ILEC as the sole Ethernet provider. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[7] We also noted that the record in Docket No. 05-25 confirms the continued significance of these unbundled loops in providing competitive choice and imposing some discipline on special access prices.[8]

Utilities and Transportation Commission, to Marlene H. Dortch, Secretary, FCC, at 2-3, WC Docket No. 15-1 (filed Feb. 11, 2016) ("Washington UTC Ex Parte"); David E. Screven, Assistant Counsel, Pennsylvania Public Utilities Commission, at 1-2, WC Docket No. 15-1 (filed Mar. 11, 2016).

5 *See* Vermont PSB Ex Parte at 1; Washington UTC Ex Parte at 2.

6 *See* Letter from John T. Nakahata, Counsel to Windstream Services, LLC, to Marlene H. Dortch, Secretary, FCC, at 1, GN Docket No. 13-5, WC Docket No. 15-1 (filed June 18, 2015).

7 Declaration of Dan Deem, Douglas Derstine, Mike Kozlowski, Arthur Nichols, Joe Scattareggia, and Drew Smith ¶ 64 ("Windstream Declaration"), attached as Attach. A to Comments of Windstream Services LLC, WC Docket No. 05-25, RM-10593, GN Docket No. 13-5 ("Windstream Dedicated Services Comments").

8 *See* Windstream Dedicated Services Comments at 77-79; Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services ¶ 44 n.42, ¶ 37, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) ("Baker Declaration") (finding that ~~*****BEGIN HIGHLY CONFIDENTIAL*****~~ "a clear majority of UNEs (63%) are supplied to buildings with only one facilities-based connection" ~~*****END HIGHLY**~~

Likewise, responses in the tariff investigation underscore the continued importance of unbundled DS1 and DS3 capacity loops to competition. In its direct case, AT&T states that it continues to lease "hundreds of thousands" of UNE loops to competitive providers,[9] and attempts to minimize the importance of issues related to DS1 special access commitments by citing statistics for its DS1 sales under tariff pricing plans relative to sales of all "special access services," apparently including all forms of UNEs.[10] This discussion is intended to support AT&T's position that additional regulation of TDM special access commitments is unwarranted. However, Windstream and other competitors cannot replace all current TDM special access purchases with UNEs,[11] and as the Commission has recognized, unbundled DS1 and DS3 capacity loops when available supplement, but do not replace, special access services as a market-opening tool.[12] Instead, these statistics are best viewed as evidence showing the continued importance of UNEs in the marketplace, and the harm that would follow from the unilateral ILEC elimination of UNEs in the technology transitions.

The Commission's completion of its review of competition in the business data services market, in both the rulemaking and tariff investigation, presents an appropriate and fitting opportunity to resolve the issue raised in Windstream's petition. The Commission should seize this opportunity because uncertainty about the availability of unbundled DS1 and DS3 capacity loops in the near future hinders competitive providers' ability to offer multi-year dedicated services agreements to business customers today.[13] Competitive carriers are bidding today on services they will provide several years from now, and the uncertainty harms competitors' ability

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~~**CONFIDENTIAL*****~~ and that "providers serving end users with UNEs likely offer some competitive constraint on facilities-based providers").

9 Brief of AT&T Inc. in Support of Its Direct Case at 13, WC Docket No. 15-247 (filed Jan. 8, 2016) ("AT&T Direct Case").

10 *See id.* at 14-15.

11 Based on price, Windstream prefers to use UNEs whenever possible to serve customers at lower bandwidth levels but regulatory, contractual, and technical constraints prevent it from doing so in many cases. Windstream Declaration ¶¶ 56-59.

12 *See Unbundled Access to Network Elements; Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, FCC 04-290, 20 FCC Rcd. 2533, 2570-71 ¶ 63 (2005) (finding that without UNEs there would be "an unacceptable level of incumbent LEC abuse because incumbent carriers could strategically manipulate the price of their direct competitors' wholesale inputs to prevent competition in the downstream retail market").

13 *See* Windstream Petition at 2 (noting that because small and medium-sized enterprises generally purchase services under multiyear (often three- to five-year term) contracts, CLECs today must bid on services that they will be providing three to five years from now).

to ensure they can control the quality and attributes of the services they provide and to offer the lowest possible prices.[14] The ultimate result of these conditions will be less choice and higher prices for business, government, and nonprofit customers.

II. The Commission Has Multiple Remedial Approaches Available to Address the Lack of Competition in the Dedicated Services Markets.

In the meeting with Ms. Shetler, et al., Windstream brought the Commission's attention to additional industry data that reaffirm the ILECs' market power over dedicated services and the resulting supracompetitive prices that competitive providers—and ultimately customers—have to pay. Windstream also discussed how discriminatory ILEC pricing conditions on the resale of telecommunications services are plainly covered by Section 251(b)(1) of the Communications Act of 1934's ("Communications Act") duty on the part of all local exchange carriers "not to impose unreasonable or discriminatory conditions" on the resale of telecommunications services.[15] Windstream reiterated the need for Commission action to remove terms and conditions in ILEC special access tariffs that unreasonably impose penalties on CLECs under volume commitment plans for migrating from TDM to Ethernet with the same ILEC. Finally, Windstream discussed clarifying the Commission's wholesale discount requirements under Section 251(c)(4), which is one of multiple remedies that the Commission should adopt to help constrain ILEC market power.

A. Industry analyst price comparisons have found higher-than-expected wholesale Ethernet prices over time, and indicate that prices vary at the building level based in part on the number of competitors.

First, Windstream highlighted TeleGeography's comparisons over time of per-Mbps wholesale prices for a 50 Mbps Ethernet access circuit and for a DS3 leased line access circuit across four markets, including New York City and several large cities outside of the United States.[16] The comparisons show that, consistently over a year-and-a-half period from January 2014 to June 2015, New York was the only city in which the median per Mbps price for a 50 Mbps Ethernet service was *higher* than the per-Mbps price for a DS3 circuit.[17] The persistence of higher Ethernet costs over time in New York City runs contrary to TeleGeography's global observation that "as Ethernet access continues to replace leased line access globally, customers

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[14] *See id.*

[15] 47 U.S.C. § 251(b)(1).

[16] *See* Attach. 1.

[17] *See id* at 1-3.

transitioning to Ethernet will realize greater cost efficiencies."[18] With respect to 10 Mbps service, TeleGeography recently found that New York City, also unlike most other cities surveyed, exhibited a median Ethernet price at the high end of its price range—which reflects "a large mass of quotes near the upper end of the [price] range" on the one hand, and "less expensive rates available within pockets of the central business district where multiple players compete at varying levels" on the other hand.[19] A more typical distribution includes a large volume of prices just below the center of the price range, with a few circuits among higher priced groups.[20]

More generally, TeleGeography, for the year-and-a-half period from January 2014 to June 2015, noted that "the access market [in the United States and Canada] has been slow to transition to Ethernet technology,"[21] and has "lagged behind other developed regions significantly in Ethernet."[22] TeleGeography concluded that "[t]he U.S. and Canada remained higher priced than should be expected from the network price market" for Ethernet, and that "[r]egulatory regimes and the number of competitors operating within the country matter, and have consequences for aggregate market rates."[23] TeleGeography added that pricing within a metro area can be attributed, among other elements, to a number building-specific factors like the

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18 TeleGeography, *Local Access Pricing Service, H2 2015 Local Access Market Summary* at 15 (2015) ("TeleGeography H2 2015 Summary").

19 TeleGeography H2 2015 Summary at 11. *See also* TeleGeography, *Local Access Pricing Service, H2 2014 Local Access Market Summary* at 2 (2014) ("TeleGeography H2 2014 Summary") at 9 (noting that "New York posted both a larger range and a higher median" price for 10 Mbps Ethernet as compared to most other surveyed cities).

20 TeleGeography H2 2015 Summary at 10.

21 *Id.* at 12.

22 TeleGeography H2 2014 Summary at 2.

23 TeleGeography H2 2015 Summary at 15. As cited in prior Windstream filings, a prior TeleGeography summary, in particular, showed lower bandwidth Ethernet services were priced higher in the United States and Canada than most other parts of the world. *See* Comments of Windstream Services, LLC at 53, WC Docket No. 05-25, RM-10593, GN Docket No. 13-5 (filed Jan. 27, 2016) ("Windstream Dedicated Services Comments") (citing 2014 TeleGeography report showing that "the United States and Canada have some of the highest prices worldwide for 10 Mbps Ethernet, with a median city price of $1,247, but some of the lowest prices worldwide for DS1s, with a median city price of $463"); Reply Comments of Windstream Services, LLC, at 17, GN Docket No. 13-5, RM-11358, WC Docket No. 05-25, RM-10593, WC Docket No. 15-1 (filed Mar. 9, 2015) ("The median 10 Mbps price for the rest of the country in the United States and Canada, $1,466, exceeded that in all regions but East Asia, Central America, and Sub-Saharan Africa.").

"number of service providers connected to the customer building,"[24] which further supports analyzing competition for dedicated services at the relevant geographic market of the customer's individual building.

B. Section 251(b)(1) prohibits discriminatory pricing conditions on the resale of telecommunications services.

Second, Windstream discussed evidence in the marketplace that large ILECs are discriminating against carrier customers by charging them prices that are greater than the retail prices charged to end-user customers for the same services.[25] *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[26] This practice not only turns the concept of discounts to wholesale customers under Section 251(c)(4) on its head,[27] it also violates the duty under Section 251(b)(1) not to impose unreasonable and discriminatory conditions on the resale of telecommunications services.[28] Accordingly, the Commission should make clear that all local exchange carriers have the obligation under Section 251(b)(1) to make their telecommunications services available to carrier customers on rate, terms, and conditions that are no worse than those that are available to end-user retail customers.

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[24] TeleGeography H2 2015 Summary at 1.

[25] *See* Windstream Dedicated Services Comments at 49-51.

[26] Windstream Declaration ¶ 95.

[27] *See* 47 U.S.C. § 251(c)(4).

[28] *See id.* § 251(b)(1). *See also Regulatory Policies Concerning Resale and Shared Use of Common Carrier Domestic Public Switched Network Services*, Report and Order, FCC 80-607, 83 FCC 2d 167, 168 ¶ 1 (1980) ("[R]estrictions of any kind on the resale and sharing of domestic public switched network services are unjust, unreasonable, and unreasonably discriminatory, and hence unlawful under Sections 201(b) and 202(a) of the Communications Act."); *Regulatory Policies Concerning Resale and Shared Use of Common Carrier Services and Facilities*, Report and Order, FCC 76-641, 60 FCC 2d 261, 283-284 ¶¶ 40-41 (1976) ("[W]e conclude that the restrictions on the subscriber's resale and sharing of communications service are unjust and reasonable under Section 201(b) of the Act . . . . The tariff provisions which deny service to resellers and sharers are . . . unlawfully discriminatory under Section 202(a) of the Act.").

In its reply comments in the business data services proceeding, CenturyLink erroneously argues that the Commission has concluded that Section 251(b)(1) does not prohibit a LEC from charging its wholesale customers higher prices than its retail customers for the same service. In support of its argument, CenturyLink cites the 1996 *Local Competition Order*, which, in the context of discussing the differences between Sections 251(b)(1) and 251(c)(4), noted "that section 251(b)(1) clearly omits a wholesale pricing requirement."[29] CenturyLink's quotation from the *Local Competition Order* is highly misleading. In that Order, the Commission merely noted that Section 251(b)(1) does not have a *standalone* wholesale pricing requirement like Section 251(c)(4), which requires wholesale service to be priced *below* retail service.[30] This Commission text, however, did not dispute the fact that Section 251(b)(1) prohibits carriers from discriminating against wholesale customers. Indeed, there is nothing in the *Local Competition Order*—or any other Commission precedent—indicating that any LEC may discriminate *against* a wholesale customer by charging the wholesale customer a higher price than a similarly situated retail customer. Section 251(b)(1) by its terms prohibits unreasonable and discriminatory conditions on resale: Discriminatory pricing of telecommunications services to wholesale customers would violate the plain meaning of that requirement.[31] CenturyLink's interpretation of Section 251(b)(1) and the *Local Competition Order* would completely nullify that statutory provision: It would allow ILECs to shut down the resale of their telecommunications service by charging a dramatically higher price on a discriminatory basis only to carrier customers seeking to resell the service.

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[29] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, 11 FCC Rcd. 15,499, 15,981 ¶ 976 (1996) ("*Local Competition Order*"). *See also* Reply Comments of CenturyLink at 76, WC Docket No. 05-25, RM-10593 (filed Feb. 19, 2016).

[30] *Local Competition Order* at 15,981 ¶ 976.

[31] *See Regulatory Policies Concerning Resale and Shared Use of Common Carrier Domestic Public Switched Network Services*, 83 FCC 2d at 168 ¶ 1; *Regulatory Policies Concerning Resale and Shared Use of Common Carrier Services and Facilities*, 60 FCC 2d at 283-284 ¶¶ 40-41. The other precedent cited CenturyLink is even more clear that the Commission's reference to "wholesale pricing requirement" means specifically the avoided cost discount requirement under Section 251(c)(4). In the *Qwest Omaha Forbearance Order*, the Commission observed that "unlike the section 251(c)(4) resale obligation, section 251(b)(1) has no wholesale pricing requirement," and that "Qwest has not demonstrated that resale at avoided-cost discount is no longer necessary to competition in the Omaha MSA." *Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Omaha Metropolitan Statistical Area*, 20 FCC Rcd. 19,415, 19,460 ¶ 89 (2005).

C. The Commission should act in both the rulemaking and tariff investigation to remove ILEC terms and conditions in TDM special access tariffs that unreasonably penalize carrier customers for migrating from TDM to Ethernet services with the same ILEC.

Third, Windstream reiterated that the ILEC practice of imposing punitive shortfall charges for carrier customers migrating from TDM to Ethernet circuits effectively raises rival carriers' costs to provide competitive services. As discussed in Windstream's prior comments and tariff investigation filing, although Verizon's tariff ostensibly provides the ability to migrate from a DS1 or DS3 special access service to Ethernet, such provisions are very narrow and difficult to invoke and implement.[32] *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** This leads to a situation under Verizon's NDP whereby even though a CLEC pays rates reflecting the circuit portability option (thus covering any costs related to early terminations and customer changes) and even though a CLEC's total spend on last mile access (including DSn and Ethernet) is increasing—and thus the CLEC is delivering more revenue than was assured through the percentage volume commitment—the CLEC can still be subject to shortfall penalties because the CLEC's volume of DS1 and DS3 circuits is deemed to be too low. This is economically irrational, and only serves the purpose of raising rivals' costs during a time of technology transition. Thus, the Commission should declare unjust and unreasonable existing ILEC special access discount plans' terms and conditions that do not apply carrier customers' Ethernet purchases to meet TDM term-and volume-based discount commitments.

Specifically, Windstream noted that under the Verizon *****BEGIN HIGHLY CONFIDENTIAL***** [redacted]

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[32] *See* Windstream Dedicated Services Comments at 58; Opposition of Windstream Services, LLC at 13, WC Docket No. 15-247 (filed Feb. 5, 2016).

[33] *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** *See* Windstream Declaration ¶ 105. Of course, if Windstream exits the plan early, it will have to purchase its remaining TDM circuits through other arrangements, likely at higher rates.

[redacted] *****END HIGHLY CONFIDENTIAL*****[34]

Going forward, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

If it exits the plan at the earliest possible date, Windstream would be faced with one of three choices if it seeks to continue providing dedicated services in buildings for which Verizon controls the only suitable connection, each of which either increases monthly costs or poses new potential penalties, even as Windstream's Ethernet purchases continue to grow. First, Windstream could enter into a new agreement based on a lower circuit count, but that still presents shortfall penalties as TDM circuits decrease over time. Second, Windstream could commit to terms for individual circuits without portability, but those terms are unlikely to match the terms of the underlying end-user agreements. Third, Windstream could pay significantly higher undiscounted rates for inputs, with which Windstream could not hope to sustain competitive retail rates.[35]

Terms and conditions that penalize CLECs transitioning to IP are unreasonable because the punitive shortfall charges are disproportionate to the costs likely to be incurred by the ILEC as a result of the transition. Verizon argues in its tariff investigation rebuttal that circuit-portability imposes costs on Verizon, and that it "trades that increased circuit portability" for a

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[34] *See id.*

[35] *See Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans*, Order Initiating Investigation and Designating Issues for Investigation, 30 FCC Rcd. 11,417, 11,441-42 ¶ 48 (2015) (citing Level 3's statement that paying ILEC rack rates is "not economically tenable"); Opposition of Birch, BT Americas, EarthLink, INCOMPAS, Integra, and Level 3 at 15-16, WC Docket No. 15-247 (filed Feb. 5, 2016) ("[U]ndiscounted prices are so high that wholesale customers can rarely pay them and compete in downstream retail markets with the incumbent LEC."); Comments of XO Communications, LLC on ILECs' Direct Cases at 16, WC Docket No. 15-247 (filed Feb. 5, 2016) ("[T]he ILEC monthly rack rates for DSn are so artificially high as to render[] unthinkable a business plan using DSn services purchased at those rates as a wholesale input.").

customer's commitment to, among other things, maintain a minimum purchase level "*from Verizon*."[36] Verizon states that it would lose "the assurance that it will receive a steady stream of revenue" if a customer fails to meet its minimum levels through TDM purchases alone.[37] However, counting Ethernet spend toward the minimum levels preserves this assurance: It maintains the "benefit of the bargain" for both seller and purchaser at a time of technology transition. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

Verizon further argues that it "has to bear the costs of physically connecting new circuits and disconnecting old ones when customers take advantage of circuit portability."[38] These costs, however, are not related to circuit shortfall, but are related to portability, and thus are already priced into the DS1 and DS3 rates paid for portability. Moreover, Verizon itself voluntarily chooses to deploy Ethernet to any given location; if recovery of other costs were really such a concern, Verizon rationally would decline to offer the less profitable service. To the extent Verizon may be arguing that there would be unrecovered costs of establishing the Ethernet circuit, that seems fanciful. First, such an argument assumes that the costs of setting up the Ethernet circuit exceed the costs of establishing the TDM circuit. Second, it assumes that Ethernet recurring and non-recurring charges (including potential early termination fees if all expected monthly payments are not made) are insufficient to recover the costs of the Ethernet circuit over the term applicable to such circuits, which are not governed by the NDP. Third, it ignores the fact that Verizon prices its wholesale Ethernet services at per-Mbps levels above the rates for comparable capacity provisioned by DS1 services. Fourth, it disregards Verizon's own claims elsewhere that provisioning Ethernet over fiber is more efficient than operating legacy technologies over time, and thus can enable higher margins than TDM services.[39]

Verizon adds that "portability also reduces the time over which Verizon can recover those circuit-specific, non-recurring costs,"[40] but this cannot justify ignoring Ethernet purchases

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[36] Rebuttal Case of Verizon at 7, WC Docket No. 15-247 (filed Feb. 26, 2016) (emphasis in original) ("Verizon Rebuttal Case").

[37] *Id.*

[38] *Id.*

[39] *See* Comments of Verizon at 5-8, PS Docket No. 14-174, GN Docket No. 13-5, WC Docket No. 05-25, RM-11358, RM-10593 (filed Feb. 5, 2015) (stating that fiber offers increased reliability, better performance, and improved energy efficiency).

[40] Verizon Rebuttal Case at 7.

when calculating shortfall penalties for TDM circuits that are purchased at rates reflecting portability. Again, the hypothesized decreased time over which Verizon can recover its costs of establishing the TDM circuit are already priced into its DS1 and DS3 rates with portability.

Furthermore, counting the amounts spent on Ethernet circuits toward the minimum commitment levels should not increase an ILEC's absorbed costs in planning and deploying its TDM and IP networks. The TDM network is already in place, and TDM purchases with portability do not establish any expectation of location-based demand. With respect to the IP network, if the ILEC lacks the requisite facilities at any given location to provide a CLEC customer with the Ethernet service input, then the CLEC customer has to purchase either a TDM circuit at that location to fulfill the commitment or an Ethernet circuit located elsewhere. As noted before, neither wholesale nor retail customers possess the ability to force an ILEC to deploy Ethernet service to a location against its will.

Accordingly, there is no reasonable, pro-competitive explanation for the failure to count Ethernet spend toward the attainment of TDM volume commitments; to the contrary, the plain purpose of this restriction is to raise rivals' costs. In place of these unjust and unreasonable terms, the Commission should prescribe that amounts spent on Ethernet circuits provided by the same ILEC count toward meeting minimum aggregate volumes on a dollar-for-dollar basis.[41]

For similar reasons, the Commission also should not allow ILECs to apply early termination liability to any individual instance where a TDM special access connection is prematurely disconnected and replaced with Ethernet of at least equal capacity at the same location prior to the end of the previously committed term (or the longest Ethernet term commitment, if it is shorter than the remaining TDM term).[42] In that case, the ILEC is receiving

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[41] Windstream does not face similar volume shortfall penalties in its other significant ILEC agreements. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

[42] Of course, in cases in which the TDM commitment included circuit portability, any Ethernet purchase would be able to substitute for the prematurely disconnected TDM circuit without incurring termination liability.

at least as much revenue (since Ethernet is priced higher than TDM) over the same overall commitment term.

The Commission has authority pursuant to Section 205 to declare as unjust and unreasonable such terms and conditions in existing ILEC tariffs, and to prescribe just and reasonable terms and conditions in their place.[43] Prescribing just and reasonable terms for counting Ethernet purchases toward the discount plan minimum commitments—in a manner more meaningful than current Verizon provisions already purporting to do the same—does not implicate any of the Commission's prior packet forbearance decisions, because such terms do not affect the terms and conditions under which those Ethernet services are offered.[44] Moreover, contrary to Verizon's assertion,[45] Section 204(a)(3)'s "deemed lawful" provision only precludes retroactive *refunds* of charges based on rates subsequently found to be unlawful, but does not immunize the entire tariff. The Commission has consistently interpreted Section 204(a)(3) to mean that it "by order may prescribe a new rate to be effective prospectively, even if the Commission cannot require a carrier to make refunds."[46] The D.C. Circuit did not hold

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43 *See* 47 U.S.C. § 205.

44 *See* CenturyLink's Petition for Forbearance from Dominant Carrier Regulation and the *Computer Inquiry* Tariffing Requirement with Respect to its Enterprise Broadband Services Is Granted by Operation of Law, WC Docket No. 14-9, News Release (rel. Mar. 16, 2015); *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, FCC 08-168, 23 FCC Rcd. 12,260 (2008); *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 and Petition of the Frontier and Citizens ILECs for Forbearance Under Section 47 U.S.C. § 160(c) from Title II and* Computer Inquiry *Rules with Respect to Their Broadband Services,* Memorandum Opinion and Order, FCC 07-184, 22 FCC Rcd. 19,478 (2007); *Petition of AT&T, Inc. for Forbearance Under 47 U.S.C. § 160(c) from Title II and* Computer Inquiry *Rules with Respect to its Broadband Services; Petition of BellSouth Corporation for Forbearance 47 U.S.C. § 160(c) from Title II and* Computer Inquiry *Rules with Respect to its Broadband Services,* Memorandum Opinion and Order, FCC 07-180, 22 FCC Rcd. 18,705 (2007); Verizon Telephone Companies' Petition for Forbearance from Title II and *Computer Inquiry* Rules with Respect to Their Broadband Services Is Granted by Operation of Law, WC Docket No. 04-440, News Release (rel. Mar. 20, 2006).

45 *See* Verizon Rebuttal at 23.

46 *Implementation of Section 402(b)(1)(A) of Telecommunications Act of 1996,* Order on Reconsideration, FCC 02-242, 17 FCC Rcd. 17,040, 17,403 ¶ 6 (2002). *See also Qwest Commc'ns Corp. v. Farmer & Merchants Mut. Tel. Co.*, 22 FCC Rcd. 17,973, 17,980 ¶ 20 (2007) ("[S]ection 204(a)(3) does not mean that tariff provisions that are deemed lawful

otherwise in *V.I. Tel. Corp. v. FCC*, in which it concluded that the Commission could "impose its own remedy" prospectively based on a provision of an existing tariff that was subsequently determined to be unlawful.[47]

D. Among other remedies, the Commission should make clear that ILECs must make dedicated services available at an avoided costs discount to the actual retail prices offered.

Finally, in addition to other remedies to constrain ILEC market power with respect to dedicated services, the Commission should clarify that Section 251(c)(4) requires ILECs to offer telecommunications services at wholesale rates that exclude avoided costs. In so doing, the Commission should make clear that the avoided costs must be deducted from the lowest comparable retail rates that are actually paid by retail customers, and not just the published sticker prices for ILEC wholesale services. As Windstream and other competitors have detailed, large ILECs are offering retail rates substantially below wholesale rates, which violates Section 251(b)(1) in addition to 251(c)(4).[48] In gauging the appropriate size of such an avoided cost discount—for which it would be appropriate for the Commission to exercise its authority under Section 201 to set a default proxy—the Commission could look to, among other things, the amount of the sales agent or channel partner commissions that are avoided in wholesale carrier-to-carrier transactions. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** The Commission should expect that other providers are likely paying the same or very similar rates, which can serve as an administrable standard to help measure avoided costs. In addition, as Windstream has previously commented, such a discount also should reflect the value and costs avoided in wholesale

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when they take effect may not be found unlawful subsequently in section 205 or 208 proceedings.") (quoting *Implementation of Section 402(b)(1)(A) of Telecommunications Act of 1996*, FCC 97-23, 12 FCC Rcd. 2170, 2183 ¶ 21 (1997)).

47 *V.I. Tel. Corp. v. FCC*, 444 F.3d 666, 671 n.4 (D.C. Cir. 2006).

48 *See* Windstream Dedicated Services Comments at 50-51; Second Declaration of Matthew J. Loch ¶ 19, attached to Comments of TDS Metrocom, LLC, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016).

arrangements resulting in greater volumes and longer purchase terms,[49] which produce benefits that the large ILECs tout in their tariff investigation Direct Cases.[50]

As Windstream explained in its comments in the business data services proceeding, the ILECs did not receive forbearance from the application of Section 251(c)(4), and thus the Commission can enforce the requirements of this provision without affecting those earlier decisions.[51] Moreover, because this approach clarifies and interprets existing obligations in the Commission's rules, additional notice-and-comment procedures are not required.[52]

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[49] *See* Windstream Dedicated Services Comments at 74; Reply Comments of Windstream Services, LLC, at 31-33, WC Docket No. 05-25, RM-10593, GN Docket No. 13-5 (filed Feb. 19, 2016).

[50] *See id.* at 33-36; Direct Case of Verizon at 12-13, WC Docket No. 15-247 (filed Jan. 8, 2016); AT&T Direct Case at 51 n.159 WC Docket No. 15-247 (filed Jan. 8, 2016) (citing Reply Declaration of Dennis W. Carlton, Allan L. Shampine and Hal S. Sider in Support of AT&T, Inc. ¶¶ 75-83, attached to Reply Comments of AT&T, Inc., WC Docket No. 05-25 (filed Feb. 24, 2010)); CenturyLink White Paper on Discount Plan Terms and Conditions at 33, WC Docket No. 15-247 (filed Jan. 8, 2016).

[51] *See* Windstream Dedicated Services Comments at 72-73.

[52] *See, e.g.*, *Perez v. Mortgage Bankers Ass'n*, 135 S. Ct. 1199, 1206 (2015) ("And § 4 [of the Administrative Procedure Act] specifically exempts interpretive rules from the notice-and-comment requirements that apply to legislative rules."); *Sprint Corp. v. FCC*, 315 F.3d 369, (D.C. Cir. 2003) ("A]gencies possess the authority in some instances to clarify or set aside existing rules without issuing a new NPRM and engaging in a new round of notice and comment.").

Please contact me if you have any questions or require any additional information.

Sincerely yours,

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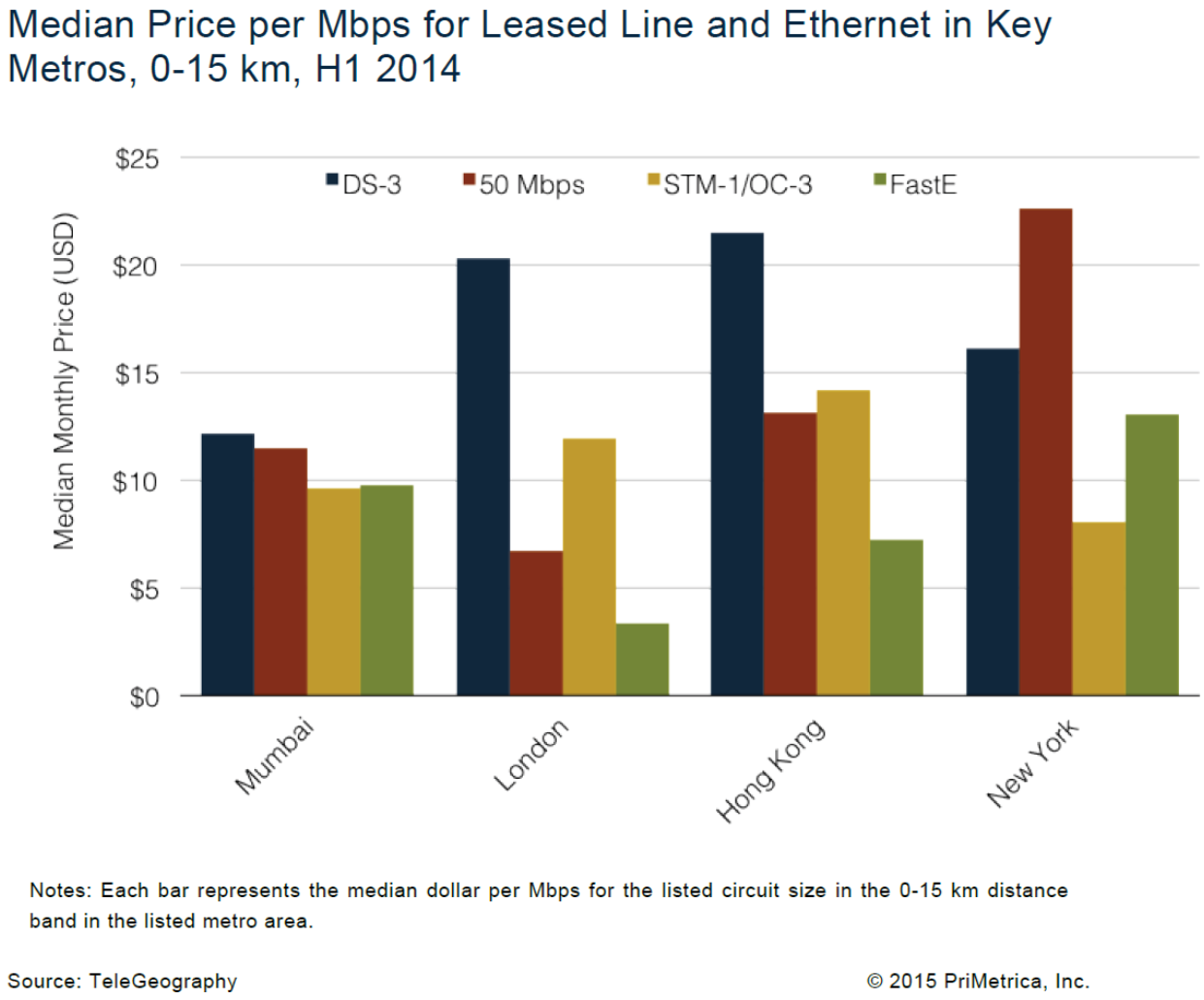
Attachment 1



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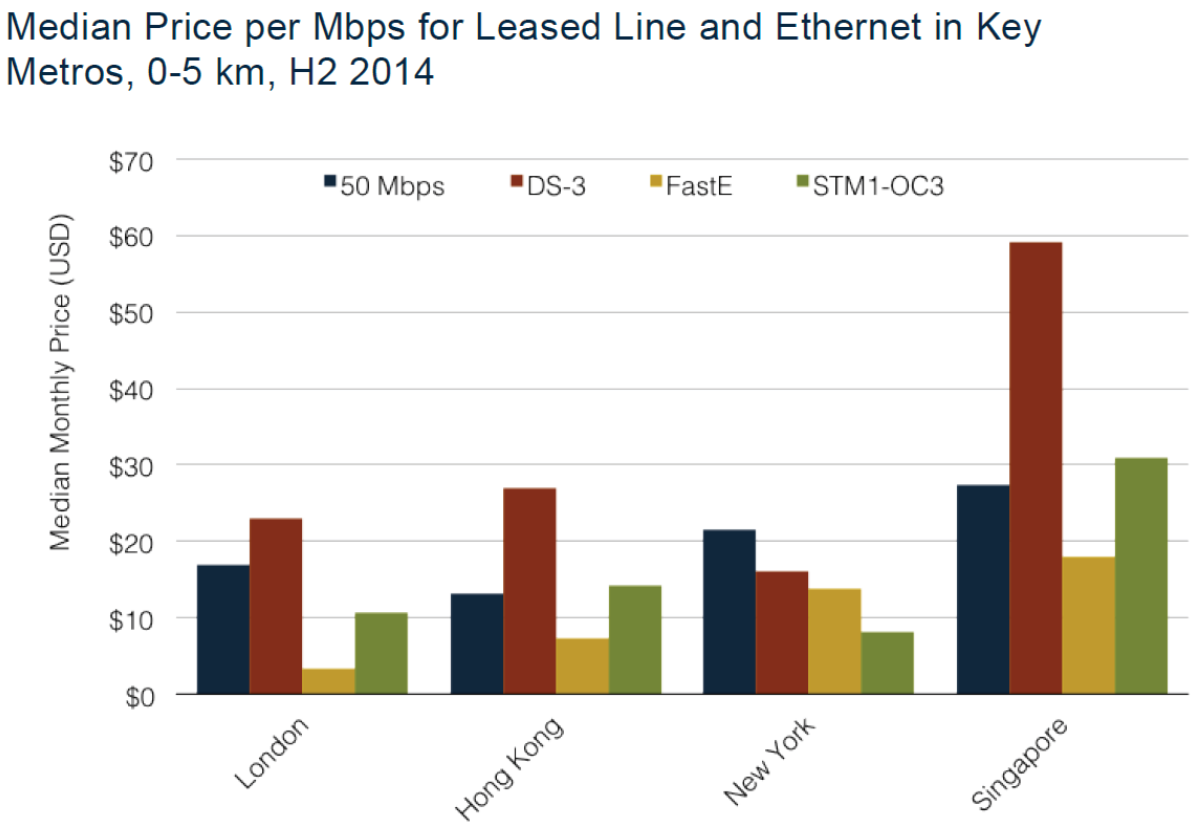

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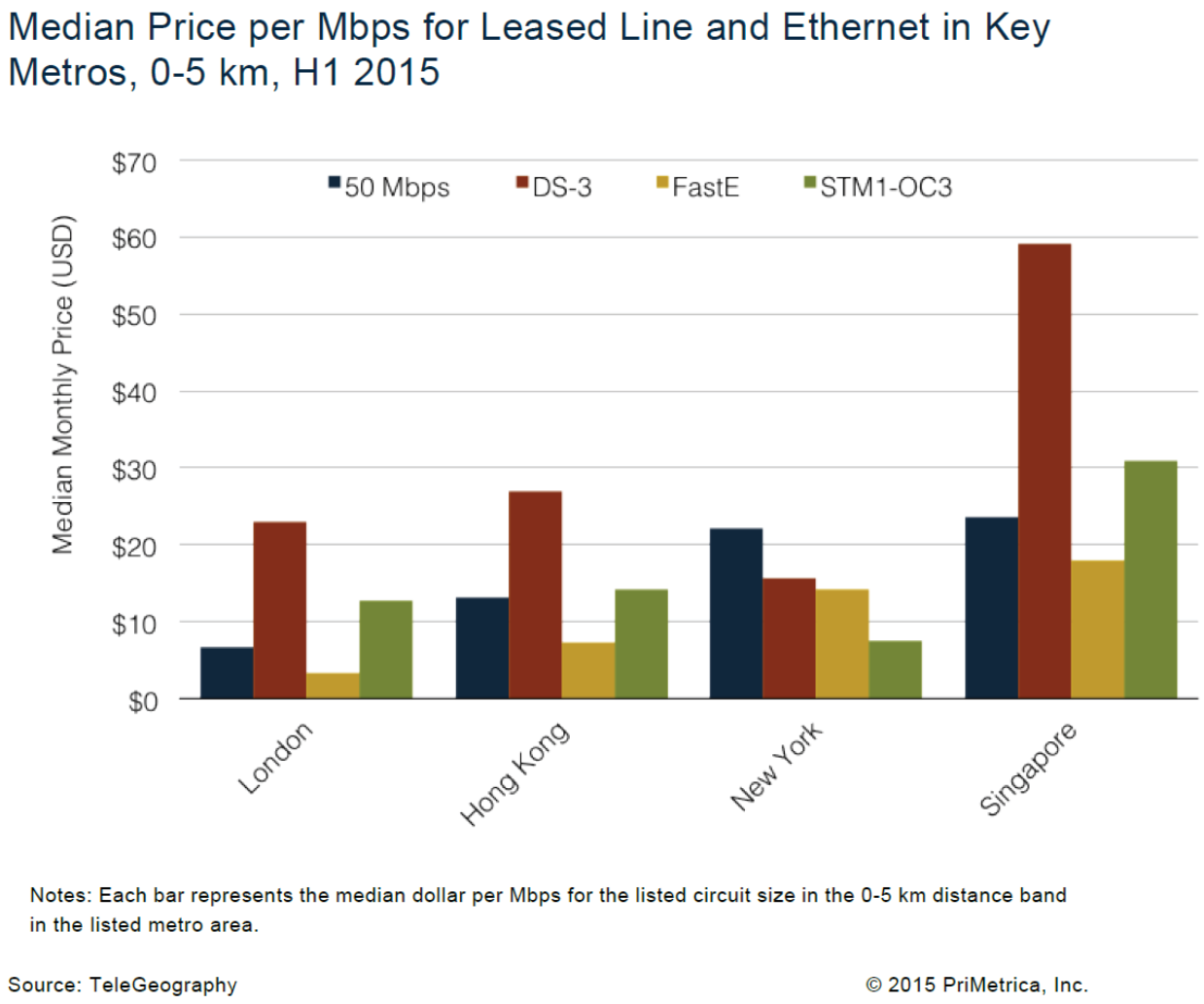

TeleGeography, *Local Access Pricing Service, H2 2015 Local Access Market Summary* (2015).