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HWG | HARRIS, WILTSHIRE & GRANNIS LLP

June 28, 2016

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

Re: *Special Access Rates for Price Cap Local Exchange Carriers*, WC Docket No. 05-25; *AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, RM-10593; *Business Data Services in an Internet Protocol Environment*, WC Docket No. 16-143

Dear Ms. Dortch:

In accordance with the *Modified Protective Order*, *Second Protective Order*, and *Data Collection Protective Order* for the above-referenced proceedings, Windstream Services, LLC ("Windstream") herein submits a redacted version of the attached comments in the above-referenced proceedings.

Windstream has designated for highly confidential and confidential treatment the marked portions of the attached documents pursuant to the *Modified Protective Order*,[1] *Second Protective Order*,[2] and *Data Collection Protective Order*[3] in WC Docket No. 05-25 and RM-10593.

Pursuant to the protective orders and additional instructions from Commission staff, Windstream is filing a redacted version of the document electronically via ECFS, one copy of the Highly Confidential version with the Secretary, and sending two copies of the Highly Confidential version to Christopher Koves, Pricing Policy Division, Wireline Competition Bureau.

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[1] *Special Access for Price Cap Local Exchange Carriers*, Modified Protective Order, DA 10-2075, 25 FCC Rcd. 15,168 (Wireline Comp. Bur. 2010).

[2] *Special Access for Price Cap Local Exchange Carriers*, Second Protective Order, DA 10-2419, 25 FCC Rcd. 17,725 (Wireline Comp. Bur. 2010).

[3] *Special Access for Price Cap Local Exchange Carriers*, Order and Data Collection Protective Order, DA 14-1424, 30 FCC Rcd. 11,657 (Wireline Comp. Bur. 2015).

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

Sincerely,

John T. Nakahata
Counsel to Windstream

Attachment

cc: Christopher Koves

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

In the Matter of	)	
	)	
Business Data Services in an Internet Protocol Environment	)	WC Docket No. 16-143
	)	
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

COMMENTS OF WINDSTREAM SERVICES, LLC ON THE FURTHER NOTICE OF PROPOSED RULEMAKING

Jennie B. Chandra
Malena F. Barzilai
WINDSTREAM SERVICES, LLC
1101 17th St., N.W., Suite 802
Washington, D.C. 20036
(202) 223-7664 (phone)
(330) 487-2740 (fax)

John T. Nakahata
Henry Shi
Elizabeth B. Uzelac
HARRIS, WILTSHIRE & GRANNIS, LLP
1919 M Street, N.W., Eighth Floor
Washington, D.C. 20036
(202) 730-1320
jnakahata@hwglaw.com

Counsel to Windstream Services, LLC

June 28, 2016

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COMMENTS OF WINDSTREAM SERVICES, LLC ON THE FURTHER NOTICE OF PROPOSED RULEMAKING

Windstream Services, LLC ("Windstream"), on behalf of its affiliates and subsidiaries, files these comments in response to the Commission's *Further Notice of Proposed Rulemaking* on establishing appropriate and necessary measures to promote and sustain competition in the provision of business data services.[1] Windstream applauds the Commission for moving forward with this *Further Notice*, and for its willingness to correct its flawed past predictions about the nature and extent of competitive entry. To ensure competition in business data services, and for the enterprise communications that rely on those services, Windstream urges the Commission to continue to focus on the lack of actual, vigorous competition to the large ILECs in the business data services markets, and to take steps to protect competition and consumers in the face of the large ILECs' ability to raise prices and stifle rivals.

Windstream—as the nation's fifth largest ILEC, and with substantial CLEC operations making it the nation's fifth largest provider of business data services and managed services—is in a unique position to evaluate competition policy reforms from both sides of the debate.[2] Windstream provides advanced communications and technology solutions, including managed services and cloud computing, to hundreds of thousands of business data services locations

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[1] *Business Data Services in an Internet Protocol Environment; Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans; 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*, Tariff Investigation Order and Further Notice of Proposed Rulemaking, FCC 16-54, 31 FCC Rcd. 4723 (2016) ("*FNPRM*").

[2] *See* Marc Rysman, *Empirics of Business Data Services*, 31 FCC Rcd. at 4928 ("Rysman White Paper"), attached as Appendix B to *FNPRM*.

nationwide, and is particularly concerned about the impact of the Commission's decisions on its business data services customers.[3]

To enable its communications services, Windstream operates the nation's sixth largest fiber network (now spanning approximately 125,000 miles across its ILEC and CLEC areas). 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.[4] To reach all the locations at which its customers need the solutions Windstream delivers, Windstream's competitive operations typically must rely on other incumbents' 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.

I. INTRODUCTION AND SUMMARY

> "Those who cannot remember the past are condemned to repeat it."
> – George Santayana, *Life of Reason* (1905)

As Windstream stated in its comments this past January, "[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. If the Commission takes no action, competition for the vast majority of business users with complex communications needs will wither to, at best,

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[3] Approximately 60 percent of Windstream's total company revenues come from the provision of business data services.

[4] As discussed below, this is consistent with the Commission's conclusions. *See infra* note 95 and accompanying text.

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."[5] And consequences for businesses, governments, schools and healthcare providers are enormous. A February 2016 study by WIK-Consult, GmbH ("WIK") found that the cost of leaving supracompetitive rates in place is extraordinary. Over five years, a failure to establish just and reasonable Ethernet rates results in:

- A loss of $11 billion for business consumers, and
- A loss of $30 billion for the economy as a whole.

WIK also showed that lower Ethernet prices would have triggered higher demand, adding revenue to, at least in part, offset the impact on ILECs of lower prices.[6] The Consumer Federation of America estimates the losses to American consumers are even higher—at $150 billion since 2010.[7]

And, if anything, the impacts on business consumers and the benefit in stimulating economic growth would be even larger now, as the networked economy has become even more dependent on Ethernet transmission. That does not even consider the impact of 5G wireless service, for which backhaul supplied by business data services may account for up to half of cell

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[5] Comments of Windstream Service, LLC at 2, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) (refiled Apr. 20, 2016) ("Windstream Dedicated Services Comments").

[6] WIK-Consult, *Ethernet Leased Lines: An International Benchmark* at 57, attached as Appendix to Reply Comments of BT Americas, WC Docket No. 05-25, RM-10593 (filed Feb. 19, 2016) ("WIK").

[7] Mark Cooper, *The Special Problem of Special Access: Consumer Overcharges and Telephone Company Excessive Profits*, CONSUMER FEDERATION OF AMERICA, 33-35 (Apr. 2016), http://consumerfed.org/wp-content/uploads/2016/04/4-16-The-Special-Problem-of-Special-Access.pdf. *See also* Letter from Phillip Berenbroick, Counsel, Government Affairs, Public Knowledge, to Marlene H. Dortch, Secretary, FCC, at 2, WC Docket Nos. 16-143, 05-25, & 15-247, RM-10593 (filed June 16, 2016) ("Public Knowledge June 16, 2016 Ex Parte").

costs.[8] By acting boldly now, the Commission can ensure these benefits flow to the American people; half-measures or inaction will squander this opportunity.

This proceeding stems from two predictive judgments about competition made by the Commission in 1999—in the absence of anything like the robust data collection that the Commission has now undertaken—that in retrospect all now recognize were incorrect. In 1999, in its *Pricing Flexibility Order*, the Commission erroneously predicted that an ILEC would not be able to "exploit any monopoly power for a sustained period" over last-mile business data services connections to customers in Metropolitan Statistical Areas ("MSAs") in which an unaffiliated competitor had collocated in 65 percent of wire centers or in wire centers constituting 85 percent of last-mile business data services revenues—even though collocation to provide transport had absolutely nothing to do with competition to provide last-mile business data services.[9] The Commission subsequently suspended those rules with respect to new petitions, but did not set aside prior grants of pricing flexibility.[10] In suspending the rules, the Commission both found "significant evidence that these rules . . . [were] not working as

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[8] Tom Wheeler, Chairman, FCC, Prepared Remarks on 'The Future of Wireless: A Vision for U.S. Leadership in a 5G World' at the National Press Club at 6 (June 20, 2016), http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0620/DOC-339920A1.pdf.

[9] *Access Charge Reform; Price Cap Performance Review for Local Exchange Carriers; Interexchange Carrier Purchases of Switched Access Services Offered by Competitive Local Exchange Carriers; Petition of U S West Communications, Inc. for Forbearance from Regulation as a Dominant Carrier in the Phoenix, Arizona MSA*, Fifth Report and Order and Further Notice of Proposed Rulemaking, FCC 99-206, 14 FCC Rcd. 14,221, 14,301 ¶ 153 (1999) ("*Pricing Flexibility Order*"). *See* 47 C.F.R. § 69.711(c).

[10] *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*, Report and Order, FCC 12-92, 27 FCC Rcd. 10,557 (2012).

predicted, and widespread agreement across industry sectors that these rules fail[ed] to accurately reflect competition in today's special access markets."[11]

The second incorrect prediction came in a series of orders in which the Commission eliminated any price regulation for specified packet-based services, including then-specified Ethernet services.[12] The Commission analyzed Ethernet services as if competition took place in a national market—essentially assuming that a competitive provider in Chicago would also provide Ethernet in St. Louis or even in much smaller cities—rather than focusing on the actual alternatives available to a customer at the location where it was seeking service.

The Commission now has both the data it needs to correct these past errors and the statutory responsibility to do so under the Administrative Procedures Act. The record—including both the collected data and the supplemental data and information provided by comments—demonstrates that business data services markets are extremely highly concentrated. Dr. Marc Rysman, the Commission's outside economist, found—consistent with work previously submitted by Drs. Jonathan Baker, Stanley Besen, and Bridger Mitchell—that less than one percent of buildings had a choice of more than two in-building last-mile facilities-based business data service providers—and only *one-tenth of one percent (0.1 percent)* had a choice of four or more such providers.[13] And even if one were to assume that cable providers were capable of offering a full range of business data services at every location served by an ILEC—which the record shows they are not—less than ten percent of buildings would have a choice of

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[11] *Id.* ¶ 1, *quoted in FNPRM* ¶ 28.

[12] *FNPRM* ¶ 24 nn.37, 39 (citing Verizon's forbearance petition that was deemed granted and the forbearance petitions of AT&T, Embarq/Frontier, Qwest, and ACS).

[13] Rysman White Paper, 31 FCC Rcd. at 4933, Table 7.

three or more in-building, last-mile facilities-based business data service providers, and only 0.5 percent would have a choice among four or more.

The record is also clear that there are high barriers to further entry and expansion to additional locations, even within the same census block: Last-mile fiber deployments are subject to multiple high hurdles including a need to aggregate sufficient potential revenue at a location to justify entry that precludes entry to serve customers at many different service tiers. Outside of their ILEC regions, the largest ILECs *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** of the buildings with special access demand in the census blocks in which they have customers.[14]

Unsurprisingly, the Commission's outside economist, Dr. Rysman, found that business data service prices are higher at locations lacking significant last-mile facilities-based competition. In particular, Dr. Rysman reported that ILEC prices for DS1s and DS3s fell as the number of competitors increased.[15] This confirms Dr. Baker's previous results.

However, ILEC market power is not limited to lower-bandwidth services like DS1s and DS3s. As Windstream and other CLECs established on the record, ILECs also are executing price squeezes at higher bandwidths, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****.[16] Dr. Baker *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END**

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[14] Reply Comments of Windstream Services, LLC at 2 & n.5, WC Docket No. 05-25, RM-10593 (filed Feb. 19, 2016) (refiled Apr. 20, 2016) ("Windstream Reply Comments").

[15] Rysman White Paper, 31 FCC Rcd. at 4940-41.

[16] *See infra* Section II.B.

HIGHLY CONFIDENTIAL***. Thus, there is certainly no basis for any claim that business data services above 50 Mbps should be categorically deemed competitive—or for drawing any such line at or below 1 Gbps.

In addition, the record continues strongly to support an analytical conclusion that each building is a separate geographic market, and that each capacity-based level of business data service is one or more separate product markets. Nonetheless, as part of an overall reform of business data services, Windstream agrees with Verizon and INCOMPAS that, as a matter of administrative convenience, a competitive test could be administered at a census block level.[17] But if this geographic metric is used, it is critical that Commission reforms also ensure:

- Services at or below 100 Mbps—for which there is extremely little likelihood that a fourth (or even third) last-mile facilities-based provider will deploy facilities—are deemed non-competitive in all areas;[18]
- Ethernet services are subject to cost-based benchmarks that recognize the greater efficiencies of packet-based services (as compared with TDM services) and actually reduce rates charged, with going -forward productivity adjustments;
- All DS1 and DS3 services, including those under optional discount plans, are subject to price caps, with all rates reduced to reflect productivity gains not accounted for in the past 11 years, as well as going-forward productivity adjustments; and

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[17] *See* Letter from Kathleen Grillo, Senior Vice President, Public Policy and Government Affairs, Verizon, and Chip Pickering, Chief Executive Officer, INCOMPAS, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 16-143, 05-25 (filed June 27, 2016) ("Verizon-INCOMPAS Letter").

[18] *See infra* Section III.C.2. For similar reasons of administrative convenience and subject to these other actions also being implemented, Windstream agrees that services above 1 Gbps could be deemed competitive in all geographies.

- The Commission requires a market leader for any noncompetitive services to set wholesale prices below its retail prices to maintain true economic parity—and not just nominal equality—between wholesale and retail business data service prices.

Without these protections, ILECs will continue to be able to discriminate in favor of themselves and their affiliates, and to utilize price squeezes to limit both competition to provide downstream business communications solutions and last-mile facilities-based entry in business data services.

The Commission also should respond to other areas of marketplace concern that are not specifically addressed in the Verizon-INCOMPAS framework, including:

- To prevent additional unjustified price increases and to preserve the limited competition provided by UNE-based competition, particularly at lower bandwidths, the Commission should confirm that ILECs remain obligated to provide unbundled DS1 and DS3 capacity over loops that use fiber or convey packet-based transmissions;
- The Commission must address TDM shortfall penalties that fail to account for industry-wide migration to Ethernet and reflect the large ILECs' ability to tie discounts to historical purchase levels, even in the face of technological changes;
- The Commission should clarify and limit circumstances under which ILECs—and any other market leader—can assess special construction charges so those charges are truly for special, and not merely ordinary, construction that benefits the market leader; and
- The Commission should adopt its proposal to prohibit non-disclosure agreements from barring disclosure to the Commission, subject to the Commission's confidentiality protections.

With these and the other reforms recommended above, the Commission will unlock the potential of business data services to spur even greater economic advancements, government efficiency, and health and educational gains.

II. THE RECORD CONCLUSIVELY ESTABLISHES MOST BUSINESS DATA SERVICE CUSTOMERS LACK ACCESS TO VIGOROUS COMPETITION.

The record before the Commission demonstrates what purchasers of business data services know—that large ILECs control the market for business data services. Econometric analysis of the data submitted in response to the Commission's data request and additional market analyses entered into the record draw the conclusion that the overwhelming majority of business locations do not have more than one dedicated connection. Large ILECs' dominance is also confirmed by the high degree to which competitive providers must continue to connect their fiber networks to large ILECs' last-mile facilities, and the observation that, in the minority of buildings where facilities-based competition actually is present, business data services prices are lower. The lack of widespread competition permeates market conditions for low- and high-bandwidth business data services alike.

A. Dr. Rysman's Empirical Analysis of the Data Collection Confirms That Business Data Service Markets Are Highly Concentrated.

The empirical analysis of the special access data collection conducted by Dr. Rysman confirmed what multiple economic analyses submitted into the record already found: The markets for business data services remain highly concentrated in the grips of the large ILECs. Dr. Rysman's white paper states that the Commission's data collection contains "three different data sets covering revenue, locations and prices, yet evidence of ILEC market power is found in each."[19] The revenue data show that the large ILECs (including their CLEC affiliates)

[19] Rysman White Paper, 31 FCC Rcd. at 4923.

collectively "still dominate" business data services sales, accounting for more than 75 percent of the market,[20] and specifically that "ILECs dominate the market for facilities-based service in their regions."[21] The locations data reveal the scarcity of facilities-based competitive providers for business data services customers, as more than 77 percent of locations have only one provider, and only 0.1 percent of locations have four or more providers.[22] Even among census blocks, Dr. Rysman found that "69.05% have no competitive provision at all," and that less than one percent of census blocks have four or more competitors.[23] The price data, through the regression analyses conducted by Dr. Rysman, also indicate that "areas with pricing flexibility exhibit more market power."[24]

These conclusions find good company in the record. First, Dr. Rysman's analysis of provider revenues is consistent with market share estimates from industry observers. Sanford Bernstein estimated ILECs' share of the fixed enterprise market in 2013 to be 78 percent.[25] Likewise, *****BEGIN CONFIDENTIAL***** [redacted] *****END**

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[20] *Id.* at 4928.

[21] *Id.* at 4943.

[22] *Id.* at 4933. As discussed further below, even if cable is assumed to offer HFC-based Ethernet service at every location served by the ILEC, 90 percent of locations would still face only a duopoly. *See infra* text accompanying note 32.

[23] *Id.* at 4935.

[24] *Id.* at 4944.

[25] *See* 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) ("Bernstein Primer"). *See also FNPRM* at Figure 9 (indicating an 82 percent share for ILEC and ILEC-affiliated CLECs).

CONFIDENTIAL***[26] Frost & Sullivan has 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*.[27]

Second, three different sets of economic analyses of the Commission's data all reach substantially the same results as Dr. Rysman's white paper with respect to the lack of in-building facilities-based competitors for the vast majority of business data services customer locations. Dr. Rysman concluded that 77.2 percent of buildings in the FCC's data have one in-building provider, 21.8 percent have two, and none have more than four.[28] Dr. Baker similarly concluded that "[n]ationwide, 77.3% of buildings in the FCC's data have one in-building provider and almost all of the rest (20.8%) have only two in-building providers."[29] Drs. Besen and Mitchell found that only 1 percent of locations had four or more in-building providers and that approximately 73 percent of locations had an ILEC as the sole in-building provider.[30]

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[26] 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.

[27] 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).

[28] Rysman White Paper, 31 FCC Rcd. at 4933, Table 7.

[29] Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services ¶ 44, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) (refiled Apr. 14, 2016) ("Baker Jan. 27, 2016 Declaration").

[30] Declaration of Stanley M. Besen and Bridger M. Mitchell ¶¶ 25, Table 1, 26, appended as Attachment 1 to Comments of Sprint Corporation, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) (refiled Apr. 11, 2016).

Notably, the recently submitted data updates by cable companies do not present a significantly different view of market conditions. In the first instance, Sprint already demonstrated that even if one were to assume that cable could provide business data services at every location and at every service level where an ILEC provides service—which is manifestly not the case given that symmetrical HFC-Ethernet services do not exceed 10 Mbps[31]—90 percent of locations would still have a choice of only two providers. Only 9.3 percent would have a choice among three providers, and just one-half of one percent (0.5 percent) would have a choice among four or more competitors.[32] In addition, the newly-filed cable data as to locations served by its Ethernet-capable HFC nodes necessarily reflect fewer locations potentially served by cable HFC than Sprint's prior calculations. Thus, there is no reason to conclude that new data on which cable HFC nodes are capable of supporting Ethernet service should meaningfully change the Commission's structural competitive analysis.

Continued ILEC dominance of last-mile customer access is further evidenced by the degree to which competitive providers must rely on their facilities to reach customers.

*****BEGIN HIGHLY CONFIDENTIAL*****

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[31] Declaration of Dan Deem, Douglas Derstine, Mike Kozlowski, Arthur Nichols, Joe Scattareggia, and Drew Smith ¶ 32, appended as Attachment A to Windstream Dedicated Services Comments ("Windstream Declaration"). Letter from Matthew A. Brill, Counsel to Comcast Corporation, to Marlene H. Dortch, Secretary, FCC, WCC Docket No. 05-25 (filed June 1, 2016); Letter from Samuel L. Feder, Counsel to Charter Communications, Inc., to Marlene H. Dortch, Secretary, FCC, WCC Docket No. 05-25 (filed May 27, 2016); Letter from Michael H. Pryor, Counsel to Cox Communications, Inc., to Marlene H. Dortch, Secretary, FCC, WCC Docket No. 05-25 (filed May 18, 2016); Letter from Matthew A. Brill, Counsel to Time Warner Cable Inc., to Marlene H. Dortch, Secretary, FCC, WCC Docket No. 05-25 (filed May 12, 2016).

[32] Letter from Jennifer Bagg, Counsel to Sprint Corporation, to Marlene H. Dortch, Secretary, FCC, at 10, WC Docket Nos. 05-25, 15-247, RM-10593 (filed Mar. 24, 2016) (refiled Apr. 11, 2016) ("Sprint March 24, 2016 Ex Parte").

[redacted] *****END HIGHLY CONFIDENTIAL*****[33] Industry analysts confirm that this level of reliance is not unique to Windstream. While CLECs have deployed substantial fiber backbone networks, Sanford Bernstein 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."[34] A 2015 Current Analysis report shows that Level 3 has approximately 30,000 lit buildings,[35] and Verizon's filing in its proposed acquisition of XO reported that XO has fewer than 4,500 lit buildings,[36] 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.[37]

Third, Dr. Rysman's regression analyses produced results that were consistent with the findings in Dr. Baker's regressions: The presence of facilities-based competitors in a building lowered prices for DS1 and DS3 circuits by statistically significant amounts.[38] These findings

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[33] Windstream Declaration ¶ 80.

[34] *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").

[35] *See* 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) ("Windstream July 20, 2015 Ex Parte") (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)).

[36] *See* Joint Opposition of Verizon and XO Holdings to Petitions to Deny and Comments at 2 WC Docket No. 16-70 (filed May 27, 2016).

[37] *See* Windstream July 20, 2015 Ex Parte (citing GeoResults Q3/2014 GeoAnalytic Report). Single-business buildings in this estimate include buildings that are used for home businesses.

[38] *See* Rysman White Paper, 31 FCC Rcd. at 4940-41. *See also* Baker Jan. 27, 2016 Declaration ¶ 57 (concluding that "ILEC prices tend to decline as the number of in-building providers increases").

are also consistent with the Commission's own analysis of the pricing data.[39] For DS1 and DS3 connections, Dr. Rysman's regressions found "a fairly large effect for competition in the building," and "an important negative effect for the building [with competition]," respectively.[40] Dr. Rysman's regression also shows, not surprisingly, that the more competitors in a census block, the bigger the decrease in price.[41] Dr. Baker's analysis took the additional step of analyzing the cumulative effect of additional providers in the building, not just in the census block, and found the same result: "[P]rices generally fall as the number of providers increases."[42] Importantly, Dr. Baker found that "[t]he fourth additional provider leads to the greatest incremental reduction in price,"[43] which indicates that buildings with three facilities-based providers are subject to the negative consequences of a business data services provider's market power.[44]

B. The Record Does Not Support a Conclusion That Markets for Business Data Services Above 50 Mbps Are Sufficiently Competitive.

In the *FNPRM*, the Commission states that "supply of higher bandwidth services may often be more competitive than supply of lower bandwidth services."[45] The record provides little support for this proposition, and there is no basis for assuming that markets for business data

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[39] *See FNPRM* ¶ 237.

[40] Rysman White Paper, 31 FCC Rcd. at 4941 (summarizing results of census tract fixed regression). The results for county fixed effects likewise "appear fairly large." *Id.* at 4942.

[41] *See id.* at 4942 ("The effect of one additional competitor in the block is significant for DS1 and DS3 lines, and the effect of two or three additional competitors is more negative, and also statistically significant.").

[42] Baker Jan. 27, 2016 Declaration ¶ 61.

[43] *Id.* ¶ 58.

[44] *See* Rysman White Paper, 31 FCC Rcd. at 4938 ("The basic idea that motivates my regressions is that if more competition reduces prices, it tells us that markets without competition exhibit market power.").

[45] *FNPRM* ¶ 244.

services above 50 Mbps are sufficiently competitive such that Commission regulation is not necessary to ensure just and reasonable rates and to prevent unreasonable discrimination. To the contrary, the record establishes the lack of competition for higher-bandwidth, fiber-based business data services.

1. The Record Contains Ample Evidence of the Lack of Competition for Higher-Bandwidth Business Data Services.

The Commission has before it a record that strongly indicates that the higher-bandwidth business data services as well as lower-bandwidth business data services lack adequate competition to discipline market power. This evidence includes the large ILECs' demonstrated ability to thwart competition by raising their rivals' costs, the stark absence of options at many locations for competitive providers seeking wholesale last-mile inputs to deliver their higher-bandwidth business data service solutions, and the prohibitive cost of overbuilding.

First, competitive providers have repeatedly highlighted how the large ILECs use their control of wholesale Ethernet service inputs, especially over high-bandwidth tiers, to raise their downstream rivals' costs. This price squeeze is accomplished by charging wholesale customers prices that are not meaningfully lower than, or are even *higher* than, the prices charged to the ILECs' retail customers for services of the same bandwidth.[46] Competitive providers have to pay the wholesale rates because there often are no alternatives. For this reason, the Commission

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[46] *See* Comments of TDS Metrocom, LLC at 23-29, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) ("TDS Comments"); Second Declaration of Matthew J. Loch ¶¶ 19-20, attached to TDS Comments ("Loch Second Declaration"); Windstream Dedicated Services Comments at 49-56; Windstream Declaration ¶¶ 86-96; Windstream Reply Comments at 28-30; Comments of XO Communications, LLC on the Further Notice of Proposed Rulemaking at 43, WC Docket No. 05-25, RM-10593 (Jan. 27, 2016) ("XO Comments"); Declaration of James A. Anderson ¶ 20, attached to XO Comments ("Anderson Declaration"). *See also* Comments of Birch, BT Americas, Earthlink, and Level 3 at 5, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) ("Joint CLEC Comments") ("[I]ncumbent LECs have powerful incentives to set wholesale prices high so as to place competitors in a price squeeze.").

has previously concluded that the ability of an ILEC to charge discriminatory rates to a carrier customer is alone evidence of its market power.[47] The large ILECs would not be able to engage in such price squeezes with respect to services above 50 Mbps if those markets were actually competitive.

But the record shows that they can, and do, execute price squeezes above 50 Mbps. XO stated in a declaration that it "relies heavily on the ILECs for wholesale inputs, including finished Ethernet services,"[48] and cited a specific example of a price squeeze for a 100 Mbps Ethernet circuit.[49] TDS also submitted a declaration stating that, in the declarant's experience in the Ethernet market, "the wholesale rates available to TDS CLEC are typically higher" than ILEC retail rates, and that "[t]his is the case for various bandwidths generally in demand by the SMB customers . . . and in some cases *even more so* for bandwidths in excess of 100 Mbps."[50] Likewise, Windstream provided a specific example of *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****.[51]

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[47] *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 conditions is likely to be evidence of market power and may reflect an attempt by incumbent LECs to preserve their market position."). *See also id.* ¶ 977.

[48] Anderson Declaration ¶ 21.

[49] *See id.* ¶ 22.

[50] Loch Second Declaration ¶ 19 (emphasis added).

[51] *See* Windstream Reply Comments at 28 n.101.

Second, at many locations, competitive providers may have fewer options for provisioning inputs for higher-bandwidth business data services than for sub-50 Mbps business data services. As Windstream explained, competitive providers may have the option of using lower-priced unbundled DS0 loops to provision Ethernet service, but even where such loops are available, technology limits the bandwidth achievable using Ethernet-over-Copper to at most 45 Mbps under ideal circumstances.[52] Competitive carriers also cannot obtain more than one unbundled DS3 capacity loop, even where available.[53] Furthermore, cable HFC-based Ethernet can never be an alternative for symmetrical services above 50 Mbps; cable can only provide higher-bandwidth Ethernet services where it has deployed fiber to the end user, which is a much smaller subset of cable locations.[54]

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[52] *See* Windstream Declaration ¶ 61 (stating that, although higher speeds are theoretically possible, "as a practical matter [such speeds] generally are not feasible for Windstream due to limitations, such as loop distance and number of available copper pairs"). *See also id.* ¶¶ 60, 62-63; Windstream Dedicated Services Comments at 43-44.

[53] *See* 47 C.F.R. § 51.319(a)(5)(ii) (setting a single loop cap on DS3 capacity UNE loops).

[54] *See* Declaration of Chris McReynolds on Behalf of Level 3 Communications, LLC ¶ 22, attached as Appendix A to Joint CLEC Comments ("McReynolds Declaration") (discussing various performance limitations of Ethernet-over-HFC); Declaration of Gary Black, Jr. on Behalf of Level 3 Communications, LLC ¶ 19, attached as Appendix B to Joint CLEC Comments (same); Letter from Matthew A. Brill, Counsel to Comcast Corp., to Marlene H. Dortch, Secretary, FCC, at 3, WC Docket No. 05-25 (filed Mar. 25, 2016) (noting that Ethernet-over-HFC is available at speeds between 1 Mbps and 10 Mbps); Letter from Melissa E. Newman, Vice President, Federal Policy and Regulatory Affairs, CenturyLink, to Marlene H. Dortch, Secretary, FCC, at 8, WC Docket Nos. 05-25, 15-247, RM-10593 (filed Apr. 8, 2016) (noting that Ethernet-over-HFC "currently provides symmetrical speeds up to 10 Mbps"); Letter from Maggie McCready, Vice President, Federal Regulatory and Legal Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, at 3, WC Docket Nos. 15-247, 05-25, RM-10593 (filed Mar. 1, 2016) (acknowledging that the bandwidth of Ethernet-over-HFC is "limited to about 10 Mbps"); Sprint March 24, 2016 Ex Parte at 5-9 (discussing several reasons why Ethernet-over-HFC products are not competitive with business data services); Letter from Thomas Jones, Counsel to Level 3 Communications, LLC and EarthLink, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-25, RM-10593 (filed Apr. 14, 2016); Letter from Tamar E. Finn, Counsel to TDS Metrocom, LLC, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-25, RM-10593 (filed Apr. 14, 2016); Letter from Jennifer Bagg, Counsel to Sprint Corporation, to Marlene H. Dortch,

Third, business data services customers also cannot and should not expect competitive fiber overbuilds to bring competition for high-bandwidth services to the vast majority of locations, particularly as a third or fourth provider in addition to the ILEC and a possible cable provider. Windstream and other competitive providers have submitted evidence into the record showing that the relatively higher costs for competitors that are not building ubiquitous networks shared with residential mass market services to overbuild existing ILEC connections remain as prohibitive now as they were when the Commission conducted its impairment analysis.[55] In particular, Windstream presented an analysis conducted by CostQuest Associates that demonstrates far higher economic obstacles faced by a competitive carrier entering on a targeted, greenfield basis as a second (or third or fourth) entrant in a market, as compared to the ILEC that has a large existing subscriber base over which to spread its deployment costs.[56] The comments and declarations submitted by Birch, BT Americas, Earthlink, and Level 3 also explain in detail

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Secretary, FCC, at 11, WC Docket Nos. 05-25, 15-247, RM-10593 (filed Apr. 18, 2016). *See also* 47 C.F.R. § 51.319(a)(5)(ii) (setting a single-loop cap on DS3 capacity UNE loops).

[55] *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) ("*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*, 689 F.3d 1214 (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) ("*TRRO*").

[56] *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); *id.* at Attachment A ("CostQuest White Paper No. 1").

that significant barriers still exist to competitive deployment of fiber.[57] The ILECs' lack of fiber deployment outside of their territories likewise reveals the impracticability of most competitive overbuilds in the last mile.[58]

2. Regression Analyses of the Data Collection Demonstrate that ILECs Exercise Market Power with Respect to Higher-Bandwidth Services.

In his attached declaration, Dr. Baker extends the work conducted by Dr. Rysman and examines in greater detail the extent to which ILEC prices for higher-bandwidth services—those above 45 Mbps as examined by Dr. Rysman or above 50 Mbps as posited by the Commission—fall as the number of actual or potential competitors increases. Drs. Rysman and Baker work from a common premise: "[I]f more competition reduces prices, it tells us that markets without competition exhibit market power."[59] Dr. Baker confirms what Windstream knows from its experience in the marketplace: *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY**

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[57] *See* Reply Comments of Birch, BT Americas, EarthLink, and Level 3 at 4-11, WC Docket No. 05-25, RM-10593 (filed Feb. 19, 2016).

[58] *See* Consolidated Applications to Transfer Control of Domestic and International Section 214 Authorizations, at 7, WC Docket No. 16-70 (filed Mar. 4, 2016) ("The transaction will also allow Verizon to reduce its dependency on the leased fiber it currently uses to serve enterprise and wholesale customers. Verizon owns and operates fiber networks within portions of its remaining ILEC footprint, but it must often lease fiber both inside and outside of that footprint to support its business customers.") (citation omitted). Indeed, Dr. Rysman noted the "striking result" in the data showing that "low number of buildings connected by facilities-based service from ILEC-affiliated CLECs." Rysman White Paper, 31 FCC Rcd. at 4931. *See also* Windstream Reply Comments at 2 & n.5.

[59] Rysman White Paper, 31 FCC Rcd. at 4938.

CONFIDENTIAL***[60] His analysis indicates that *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[61]

Dr. Baker stepped beyond Dr. Rysman's earlier analysis by separately accounting for and examining the number of in-building and nearby fiber-based competitors to the ILEC, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****. When he did so, Dr. Baker found *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[62] In fact, he found *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****.[63] *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****.[64]

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60 Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services ¶ 3, WC Docket Nos. 05-25, 16-143, RM-10593 (filed June 28, 2016) ("Baker June 28, 2016 Declaration").

61 *Id.*

62 *Id.* ¶ 19.

63 *Id*. Table 2.

64 *See id*. ¶ 21 & n.34.

Moreover, the cumulative impact of increased competition on ILEC prices that Dr. Baker found *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****. When taking into account the identity of the provider and bandwidth levels, and with county fixed effects, Dr. Baker found *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****.[65] Using census tract fixed effects, he found *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****.[66]

III. THE COMMISSION SHOULD APPLY A COMPETITIVE MARKET TEST THAT MEASURES ACTUAL, AND NOT HYPOTHETICAL, COMPETITION.

To avoid perpetuating mistakes of the past, it is important that the Commission base its determinations on presence of actual competition in the business data service markets. This means best efforts services should be excluded from consideration. In addition, competition ideally should be measured at a customer's building. This granular assessment of market conditions provides the most accurate view of choices available to a purchaser seeking service at an individual location, as well as focuses on the types of competitors (in-building, not merely nearby) that have the greatest impact on prices offered within particular buildings.

Windstream, however, recognizes that the Commission may determine that a building-specific test is too difficult to administer. Thus, Windstream observes that it could be appropriate for the Commission to apply a competitive market test at a census block level, if certain conditions are met. In addition, with use of such a broader unit to apply the competitive market test, it is important that the Commission adopt other reforms. These reforms, as specified

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[65] *Id.* ¶ 17 & Table 1.

[66] *Id.* ¶ 18 & Table 1.

further below, include the following: Ethernet benchmarks should be cost-based;[67] wholesale services should be required to be priced in true economic, not just nominal, parity with retail services, which necessarily means below retail levels;[68] and TDM prices should be reduced to account for productivity since 2005 and adjusted going forward.[69] Unless the Commission takes these steps, its competitive test will be largely irrelevant, because competition in areas that will not sustain a fourth (or even third) last-mile facilities-based entrant will not be viable, regardless of whether the area is nominally designated "competitive" or "non-competitive."

A. As the Commission Considers the Competitive Market Test, It Must Bear in Mind the Results of Past Erroneous Predictions, and the Availability of Forbearance to Continue to Tailor the Boundaries Between Competitive and Non-Competitive Areas.

Any competitive test that the Commission develops here will necessarily be inexact and both overinclusive and underinclusive. This especially will be the case if the Commission concludes, for reasons of administrability, that it must apply the test at levels above an individual customer's location—for example, a census block—even though all locations within the larger geography do not share common competitive characteristics, i.e., do not have the same number of underlying facilities-based choices.

As discussed in the introduction, the Commission is conducting this proceeding in the wake of two failed efforts to draw the line successfully between competitive and non-competitive areas—the 1999 *Pricing Flexibility Order* and the *Packet Forbearance Orders*.[70] In

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[67] *See infra* Section IV.B.

[68] *See infra* Section IV.A.1.

[69] *See infra* Section V.

[70] *Pricing Flexibility Order*, 14 FCC Rcd. 14,221; *FNPRM* ¶ 24 nn.37, 39 (citing Verizon's forbearance petition that was deemed granted and the forbearance petitions of AT&T, Embarq/Frontier, Qwest, and ACS).

both of those cases, the Commission eschewed relying on actual competition, and instead made predictions about the development of competitive markets that were not grounded in data or economic analysis. The result is that prices for all business data services offerings are higher than they would be in a competitive market (which would still allow for a company to earn a profit), and that the ILECs can wield business data services prices as a club against rivals in adjacent markets to reduce competition in those markets—whether for fixed services to businesses, governments, schools, and health care providers, or for 4G and emerging 5G mobile services.

As the Commission weighs the relative consequences of being overinclusive or underinclusive with respect to delineating which areas are actually subject to adequate competition to discipline rates and anticompetitive conduct, it should keep in mind that the Communications Act contains a mechanism—forbearance—that permits relatively rapid adjustments through the removal of regulation,[71] but contains no similar mechanism through which the Commission can as readily adjust if it later determines that it was overly optimistic in designating areas as competitive and needs to expand the areas subject to regulatory safeguards. In this setting, it makes much more sense for the Commission to tailor its competitive test to the presence of actual competition, and then to remove rules when actual competition is present, rather than designating broad areas as competitive on the hope that technological evolution will increase actual competition.

This is especially true because, as Windstream and other CLECs have demonstrated, and as CostQuest verified, a CLEC's build-versus-buy decision is heavily influenced by the amount

[71] *See* 47 U.S.C. § 160.

of sales opportunity at a given location.[72] Thus, a customer with a larger demand, such as for a gigabit-capacity Ethernet service, will likely have a greater number of potential competitors willing to build out to its location than a customer in the same census block with only 100 Mbps or 10 Mbps demand. If the census block is declared competitive based on the number of providers willing to serve the 1 Gbps customer, and those providers are not willing to build out to the 100 Mbps or 10 Mbps location, those lower-bandwidth customers will continue to face unremedied ILEC (or ILEC and cable) market power. This should especially be a concern given the extremely small number of locations (9.8 percent) that would have a choice of three or more providers—let alone four or more (0.5 percent)—even if the cable provider is assumed to be able to provide Ethernet service over its HFC network at all service levels and all locations at which the ILEC can offer service.

ILECs, and possibly cable, will undoubtedly argue that if too many areas are regulated and if pricing regulations are drawn too tightly, entry may be stymied. While this is theoretically true, this risk is substantially ameliorated by two factors. First, as Sprint demonstrated, 90.2 percent of all locations would have two or fewer choices, even with cable HFC assumed to be ubiquitous and capable of providing all levels of service.[73] This means that the likelihood of a strict competitive test erroneously classifying competitive locations as non-competitive is extremely small, particularly as compared to the risk of erroneously classifying a non-

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[72] *See* Windstream Dedicated Services Comments at 35-42; Windstream Declaration ¶ 51; Baker Jan. 27, 2016 Declaration ¶¶ 36-40; Reply Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services ¶ 7, WC Docket No. 05-25, RM-10593 (filed Feb. 19, 2016) (refiled Apr. 14, 2016) ("Baker Reply Declaration") (citing CostQuest White Paper No. 1); Joint CLEC Comments at 31-40; Comments of Sprint Corporation at 34-38, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) (refiled Apr. 11, 2016); TDS Comments at 18-21; XO Comments at 36-38.

[73] *See* Supplemental Declaration of William P. Zarakas, at 7, Table 1, appended as Attachment A to Sprint March 24, 2016 Ex Parte.

competitive location as competitive. Second, because of forbearance, if an area or location is truly competitive, the provider can file a petition for forbearance subject to a statutory requirement for Commission action within, at most, 15 months. This provides a substantial safety valve against the risk of designating too many areas as competitive.

B. The Commission Correctly Concluded That Best Efforts and Business Data Services Are Not in the Same Product Market.

The Commission correctly recognized that business data services and best efforts service are not in the same product market.[74] The distinctions between the two are apparent in the different offerings of providers, with business data services offerings reflecting high-level performance. The distinctions are also apparent in the difference in price that providers are able to charge. The record is clear that best efforts services are not adequate substitutes for business data services because business data services users require more sophisticated integrated communications solutions that rely on characteristics not present in best efforts offerings.

1. The Record Is Clear That Best Efforts and Business Data Services Are Different Products With Differentiated Performance Characteristics.

The Commission has defined business data services as service that "transports 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 typically include bandwidth, reliability, latency, jitter, and/or packet loss."[75] This definition correctly captures the core feature of business data services: the offering of higher performance. As has been

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[74] *See FNPRM* ¶ 279 (proposing definition of business data services that "does not include 'best effort' services, e.g., mass market BIAS such as DSL and cable modem broadband access").

[75] *Id*.

demonstrated by evidence put in the record by users and providers of business data services offerings,[76] these characteristics distinguish business data services from best efforts services.

Customers who require business data services solutions need extremely reliable connections and high-level performance, and are willing to pay for such features.[77] Business data services offerings generally support a minimum level of network availability of at least 99.99 percent uptime and robust assurances of performance with regard to jitter (or, in the Ethernet context, inter-frame delay variation), packet latency (or one-way frame delay), and packet loss.[78] In addition to such performance targets, business data services customers regularly require business data services providers to meet mean-time-to-repair standards as a part of their service offerings—in some cases as brief as two hours—and to offer managed services such as security.[79] Business data services customers often demand the ability to prioritize traffic among different Quality of Service ("QoS") levels for different applications, such as the four-to-six QoS classes supported by Windstream's multiprotocol label switching ("MPLS") service.[80] These high-level performance characteristics that define business data services commonly are enforced

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[76] *See* Comments of The National Rural Electric Cooperative Association at 5 n.7, GN Docket No. 13-5, WC Docket No. 05-25, RM-11358, RM-10593 (filed Oct. 26, 2015) ("NRECA Comments"); Comments of The Ad Hoc Telecommunications Users Committee at 11-12, WC Docket No. 05-25, RM-10593 (filed Feb. 11, 2013); Windstream Dedicated Services Comments at 10-30; Windstream Declaration ¶¶ 11-24, 37-42; Windstream Reply Comments at 4-9; Joint CLEC Comments at 4-5; XO Comments at 18; Anderson Declaration ¶ 33; Baker Jan. 27, 2016 Declaration ¶¶ 31-34.

[77] *See* NRECA Comments at 5 n.7; Second Declaration of Ed Carey ¶¶ 9-10, appended as Attachment B to Sprint March 24, 2016 Ex Parte ("Second Carey Declaration").

[78] *See* Windstream Declaration ¶¶ 17-18; Windstream Dedicated Services Comments at 13-15; NRECA Comments at 5 n.7; Comments of The Utilities Telecom Council at 4, GN Docket No. 13-5, WC Docket No. 05-25, RM-11358, RM-10593 (filed Oct. 26, 2015).

[79] *See* Windstream Dedicated Services Comments at 15.

[80] *See* Windstream Declaration ¶¶ 8, 19; Windstream Dedicated Services Comments at 13.

through Service Level Agreements ("SLAs") that impose financial penalties on a provider if the guaranteed performance levels are not met.[81]

Best efforts services do not meet the same high-level performance and availability standards.[82] Best efforts services are less reliable than business data services with respect to guaranteed uptime, latency, jitter, and other characteristics.[83] The Commission's own math demonstrates how these differences in guaranteed reliability are not academic—services meeting 99.9 percent uptime targets associated with some best efforts providers' services would permit 8.76 hours of downtime a year, whereas services meeting the more stringent 99.99 percent uptime targets associated with some business data services providers would permit just 52 minutes.[84] Best efforts services also lack the traffic prioritization, security features, and other more complex features needed by business data services customers.[85] This holds true even where cable providers deploy services using DOCSIS, as such systems "remain significantly inferior to fiber deployments on a fundamental, physical level" and are appropriate only for

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[81] *See* Windstream Declaration ¶ 18; Windstream Dedicated Services Comments 13-17.

[82] *See* Windstream Declaration ¶ 30. *See also* Joint CLEC Comments at 16-18 (quoting McReynolds Declaration ¶ 18) (noting that cable companies' best efforts services "generally are not competitive" because customers of dedicated services "do not view these services as sufficient to meet their needs"); Declaration of Paul Schieber ¶ 12, appended as Attachment A to Comments of Sprint Nextel Corporation, WC Docket No. 05-25, RM-10593 (filed Feb. 11, 2013); McReynolds Declaration ¶ 22.

[83] *See* Windstream Dedicated Services Comments at 17; Joint CLEC Comments at 17; XO Comments at 26.

[84] *See FNPRM* ¶ 195 & n.500.

[85] *See* Windstream Dedicated Services Comments at 17; Current Analysis, "Comcast Business—Business Services US," at 4, (Nov. 13, 2015).

business customers with basic connectivity needs.[86] Services that offer only performance objectives, without penalties if objectives are not met, are not business data services.

2. Business Data Services Command a Significant Price Premium Over Best Efforts Services.

Pricing differences between best efforts and business data services confirm that they comprise distinct markets. As the Commission noted and Windstream previously explained, prices for best efforts services are much lower than the prices of business data services offerings at similar bandwidths.[87] Indeed, "[b]est efforts services are uniformly the least cost alternative offered by carriers, with the lowest functionality."[88] Demand for business data services at much higher prices than best efforts service of similar bandwidth demonstrates the premium that the market places on the unique characteristics of business data services over and above the value of best efforts comparators.[89]

Market research verifies this pattern. A third-party market research firm engaged by Windstream found a gap between the monthly price-per-Mbps for best efforts services offered by cable companies and local exchange carriers ("LECs") and the monthly price-per-Mbps for business data services offered by a sample of cable companies and LECs.[90] Industry analysts

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[86] Reply Comments of INCOMPAS at 17, WC Docket No. 05-25, RM-10593 (filed Feb. 19, 2016). *See also* Sprint March 24, 2016 Ex Parte at 2, 9 & n.40; Second Carey Declaration ¶ 3.

[87] *See FNPRM* ¶ 191; Windstream Dedicated Services Comments at 24 (noting pricing gaps in Verizon, EarthLink, and Comcast's business data services and best efforts offerings); Windstream Reply Comments at 11-12 (describing how the qualitative differences between best efforts services and business data services are reflected in the pricing of both sets of products).

[88] *FNPRM* ¶ 192 (explaining that best efforts pricing "typically start[s] at levels consistent with residential broadband service, increasing as service speed, capacity and reliability increase").

[89] *See FNPRM* ¶ 193.

[90] *See* Windstream Dedicated Services Comments at 24-25; Windstream Declaration ¶ 24.

note that business data services' "significant premium" over cable providers' best efforts service stems from, among other things, business data services providers' "ability to offer managed services and capacity with guaranteed quality via SLAs," which poses "high barriers to cable entry."[91]

C. The Commission's Proposed Geographic Market Definition for Business Data Services Is Too Broad and Contradicts the Record.

The Commission overestimates the appropriate measure of the geographic market, even when the market analysis is done from the supply side.[92] Location is the only unit of analysis that properly accounts for the distinctions between nearby and in-building competitors. If the Commission instead uses a broader unit of analysis for ease of administrability, it must exclude from consideration all products in a particular market that would not generate sufficient revenue to justify building out a network, and it should only count those providers serving business data services customers over the providers' own last-mile facilities.

1. The Record Establishes a Customer's Building Is the Appropriate Unit of Analysis for the Business Data Services Geographic Market.

The appropriate unit of analysis for the geographic market is the individual customer location, i.e., the customer's building. While the economic analyses performed by Drs. Baker and Rysman show that nearby presence of a facilities-based competitor may in some instances have an effect on ILEC prices, Dr. Baker demonstrated that the magnitude of that effect is nowhere near as great for nearby providers as for in-building providers.[93] *****BEGIN HIGHLY**

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91 Bernstein Primer at 6.

92 *See FNPRM* ¶ 204.

93 *See* Baker Reply Declaration ¶¶ 3-10; Second Supplemental Reply Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services ¶¶ 35-40, WC Docket No. 05-25, RM-10593 (filed Apr. 21, 2016) ("Baker Second Supplemental Reply Declaration").

CONFIDENTIAL* [redacted]

[redacted] *****END HIGHLY CONFIDENTIAL*****.[94]

As Dr. Baker explained, nearby providers are not necessarily actual competitors.[95] A nearby competitor must surmount high barriers to entry to become an actual competitor. These barriers include not just the cost associated with building a fiber ring and laterals, but also the availability of a close enough splice point at which to access the fiber, the cost of obtaining building access and access to necessary rights of way to a particular location, the cost of obtaining local construction permits, and the substantial delay that can accompany all of these items.[96] The level of demand in a particular building also informs the calculus of a nearby provider as to whether to expand supply to that location.[97] The nearby provider is likely to remain a mere would-be competitor if the customer location is not likely to generate sufficient revenue. Most locations would not present a sufficient revenue opportunity.[98]

Using location as the geographic market properly accounts for supply response, that is, the circumstances (if any) under which nearby suppliers will geographically extend their existing facilities distances to obtain new consumers.[99] This is because the customer's building is the

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[94] *See* Baker June 28, 2016 Declaration at Table 1.

[95] *See* Baker Second Supplemental Reply Declaration ¶¶ 37-40.

[96] *See* Baker Jan. 27, 2016 Declaration ¶¶ 39-40.

[97] *See id.* ¶ 40 & n.37; Declaration of David Schirack and Mike Baer, Attachment A to Comments of Windstream Services, LLC on the Further Notice of Proposed Rulemaking ¶¶ 16-18, WC Docket Nos. 05-25, 16-143, RM-10593 (filed June 28, 2016) ("Schirack/Baer Declaration").

[98] It is unlikely to be profitable for a CLEC to build out its own network without the presence of substantial density and extensive penetration. *See* CostQuest White Paper No. 1, *supra* note 56. *See also* Schirack/Baer Declaration ¶¶ 16-18.

[99] *See FNPRM* ¶¶ 204, 207.

only geographic unit that permits the accurate assessment of the "*additional* sunk investments required for nearby rivals to serve a building's customers."[100] Simply put, a nearby competitive provider is not the same as an in-building provider. It would contradict the record in this proceeding to treat the two types of providers as analytically equivalent and to ignore the substantially different level of investment required to serve a customer as an in-building provider.

ILECs argue that the mere presence of fiber in a census block should be sufficient to demonstrate the presence of a competitor.[101] But that argument fails for multiple reasons. First, the mere presence of CLEC fiber in a census block does not mean that it is fiber that can be used to provision business data services to an end user. If, for example, a CLEC has transport fiber transiting the block, it may not even be offering business data services to any end user customers in that block. Fiber in the block also does not account for where an access point (or node) is actually located. It would be extremely difficult and costly to break into a fiber at a point other than a manhole or handhole at a point that contemplates a connection. Second, the ILEC arguments ignore the substantial differences in the business case for deploying fiber to one or a few end user customer locations versus all end user locations in the block, as discussed above. Construction costs can be exorbitant even when fiber is extremely close by, as demonstrated by ILEC special construction charges—assuming one believes these charges to be legitimate.[102]

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[100] Baker Second Supplemental Reply Declaration ¶ 37.

[101] *See* Comments of AT&T Inc. at 7, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016) (refiled Apr. 7, 2016); Comments of CenturyLink at 27, WC Docket No. 05-25, RM-10593 (filed Jan. 28, 2016); Comments of Verizon at 21, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016).

[102] As discussed in Section VII, below, there is reason to question the legitimacy of ILEC special construction charges. But ILECs cannot have it both ways. They cannot

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2. If the Commission Defines the Geographic Market More Broadly, It Should Exclude as Noncompetitive All Products That Would Not Generate Enough Revenue to Sustain Entry to a Location.

Although administering a location-level geographic market analysis is analytically correct, it may be deemed too difficult; in that case, for administrative ease, the Commission instead could use a census block as a more easily administered unit of analysis. If it does so, however, it is imperative that the Commission exclude those products that would not generate a sufficient revenue opportunity to sustain entry to a location. Failing to do so would substantially overstate the competitiveness of the market and contradict the record, because the record does not support a conclusion that a competitive provider can serve any location in the census block once it is present somewhere in the block.

At a bare minimum, business data services at or below 100 Mbps should be deemed non-competitive in all census blocks. Nearby providers are likely to remain mere would-be competitors if the location is not likely to provide a sufficient revenue opportunity to render a network build profitable. In particular, CostQuest's white paper demonstrated that revenue equal to at least three 100 Mbps customers is required for an average location to sustain CLEC entry viably.[103] Especially for a third or fourth entrant, which must seek to win customers from two

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simultaneously claim that costs of entry are low, but special construction charges should be high even when they have deployed last-mile fiber in the immediate vicinity.

[103] *See* CostQuest White Paper No. 1 at 9.

other providers, it will be extremely difficult for locations to reach this threshold—as the paucity of buildings with four or more competitors (less than 2 percent even if cable is assumed to be everywhere the ILEC offers service, and a fraction of a percent if that is not the case) confirms.[104] Indeed, based on Windstream's experience, "a single 100 Mbps circuit almost never generates the amount of revenue required to justify deployment of a new last-mile connection by its competitive carrier operations, even when Windstream has already deployed fiber feeder in the customer's vicinity."[105] And as bleak as the prospects of entry are at 100 Mbps service to a location, they are even bleaker at 50 Mbps.[106]

For those rare exceptions where a provider could show a building nonetheless had a significant enough concentration of demand even at lower bandwidth levels to permit entry, concerns could be addressed through a defined waiver or forbearance process. If the Commission is going to permit a challenge process, it should require a seller to demonstrate conclusively that four or more competitors have installed dedicated last-mile facilities to the location, and give purchasers the reciprocal ability to challenge competitive classifications of certain buildings.[107] The Commission should avoid creating a challenge process that only corrects errors in one direction. It ultimately may well be administratively simpler to adopt a bright-line test.

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[104] *See* Rysman White Paper, 31 FCC Rcd. at 4933, Table 7; *supra* notes 31-32 and accompanying text.

[105] Schirack/Baer Declaration ¶ 16.

[106] *Id*. ¶¶ 16-17.

[107] In particular, a competitive carrier should be allowed to present evidence of fewer than four dedicated last-mile owners at a location to demonstrate that sufficient competition is lacking and that Commission regulation at a location is necessary.

To the extent that the Commission may be concerned about using a bright-line census block-based test based on the 2013 data collection, the use of the 2013 data collection could be an interim step. Location data could be collected in the future using Form 477, by adding a worksheet similar to that used for census block-level reporting of fixed wireline broadband deployment data.

3. If the Commission Defines a Broader Geographic Area Than a Building Over Which to Apply the Competitive Test, It Also Should Define Market Participants as Including Only Those Providers That Provide Service Over Their Own Last-Mile Connections.

If the Commission uses such a broader unit of analysis for applying the competitive market test, it also should limit the market participants that it defines as competitors to only those providers that serve or have served a business data services customer over their own last-mile connection in the census block at issue. The term "competitor" should not include a provider that has merely resold business data services or provisioned service using UNEs, particularly while ILECs are arguing that they have no duty to provide unbundled DS1 or DS3 capacity loops after migrating to packet-based transmission or to fiber.[108] This definition also should recognize that it is illogical to characterize a provider as a competitor where it has fiber but does not actually provide facilities-based last-mile business data services in a census block.[109] As discussed above, the Commission should reject the large ILECs' arguments that the presence of fiber in a census block alone suffices to establish competitive presence.[110]

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[108] *See infra* Section VI.

[109] *See* Public Knowledge June 16, 2016 Ex Parte at 3.

[110] *See supra* Section III.A.

D. Competitive Choices for Multilocation Customers Are Particularly Subject to Price Squeezes Based on the Least Competitive Market in Which They Are Located, Which Amplifies the Risk of Error Associated With Overestimating Competition in Product and Geographic Markets and Failing to Impose Cost-Based Rates.

The Commission rightfully notes that some competitive supply in a geographic market "may not place a competitive constraint on supply" to customers that require connections to multiple locations.[111] This is because multilocation customers are limited in their business data services-provisioning choices by the competition (or lack thereof) in their least competitive markets. CLECs often only are able to partly serve the needs of a given multilocation customer using the CLECs' own last-mile facilities.[112] They generally lack a viable economic case to extend their facilities beyond a very short distance to reach potential customers.[113] As a result, multilocation customer sites are often served by last-mile facilities of the "relatively rare" business data services providers that "have a broad regional footprint without significant gaps in coverage to serve large enterprises with multiple sites across given geographic regions effectively."[114] Even where CLECs build out their own last-mile facilities, large ILECs have the ability to raise CLECs' costs for off-net connections to customer locations where CLEC overbuilding is uneconomic, which adversely affects the CLECs' business case for last-mile fiber deployments to other customer sites.[115]

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[111] *FNPRM* ¶ 201.

[112] *See* Windstream Dedicated Services Comments at 76-77.

[113] *See FNPRM* ¶¶ 211-13 (citing comments from Windstream, Comcast, TDS, and XO).

[114] *Id.* ¶ 201 (quoting Public Interest Statement of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership at 35, MB Docket No. 15-149 (filed June 25, 2015)). *See also* Windstream Declaration ¶ 22.

[115] *See* Windstream Dedicated Services Comments at 76-77 (citing Baker Jan. 27, 2016 Declaration ¶ 78).

These dynamics underscore why it is imperative that the Commission accurately define the product and geographic markets for business data services and limit business data services prices to cost-based rates in the ways discussed below.[116] If the Commission defines the markets in a manner that suggests more competition than actually exists, multilocation customers will face anticompetitive prices even where some of their locations may be in a geographic area that the Commission determines is competitive.

IV. THE COMMISSION SHOULD ENSURE JUST, REASONABLE, AND NONDISCRIMINATORY ETHERNET RATES BY ADOPTING REFORMS THAT REQUIRE WHOLESALE RATES TO BE SET BELOW RETAIL, AND ACCOUNT FOR GREATER EFFICIENCIES WITH PACKET-BASED COMMUNICATIONS.

As the data in this proceeding clearly show, last-mile access is the greatest impediment to competition in the markets for providing business communications solutions, which necessarily must use circuit-based or packet-based business data services to reach business, government, and nonprofit customers. As discussed above, this is particularly true for lower-bandwidth services, where lower prices per circuit mean there usually is no economically viable case for overbuilding last-mile facilities; however, overbuilding in the last mile—particularly beyond a second or third provider and thus toward levels that yield more vigorous competition—continues to be problematic even in the market for higher-capacity services. Thus, any effective reform must be focused on both reducing the monopoly or oligopoly overcharges extracted from all purchasers, and ensuring that wholesale last-mile input rates are below retail rates and that rates reflect the increased efficiency of packet-based technologies.

The Commission can achieve these results in more than one way. The most future-proof method would be for the Commission to develop a cost-based approach to developing wholesale

[116] *See supra* Section III.C and *infra* Section IV.

last-mile input price benchmarks in non-competitive business data services markets, and update the cost inputs on a regular basis. In the alternative, the Commission could make progress, at least on an interim basis, by adopting a modified version of a TDM benchmarking proposal set forth in the *FNPRM*. Refinements to this approach should generate wholesale Ethernet benchmarks that are responsive to packet-based efficiencies and costs avoided in wholesale arrangements. And under any circumstance, the Commission will need to adopt reform backstops, including measures that, following approaches embodied in the Telecommunications Act of 1996, require business data services providers to set wholesale last-mile input rates below their best retail rates and that ensure that customers purchasing DS1s today do not pay more when attaining similarly low-bandwidth services in an IP format, and should provide sufficient ex ante clarity to minimize provider disputes.

A. Reforms Must Ensure That Wholesale Business Data Services Rates Are Set at a Level That Allows Retail Customers to Benefit From Robust Packet-Based Competition.

Last-mile access remains the most stubborn competitive bottleneck when providing business communications services to business, government, and nonprofit customers. As discussed above, the data overwhelmingly show that large ILECs still control access to the vast majority of dedicated last-mile facilities, especially at bandwidth levels above 10 Mbps, and in many cases, the local transport to their locations.[117] And even where the ILECs are not the only provider, there are rarely more than two providers serving a location.[118] The Commission, recognizing these conditions, has long acknowledged the risk that "incumbent carriers could strategically manipulate the price of their direct competitors' wholesale inputs to prevent

[117] *See supra* Section II.

[118] *See supra* Section II.A.

competition in the downstream retail market,"[119] and a firm with market power in the wholesale market for necessary inputs has "the incentive and ability" to "raise rivals' costs."[120] In particular, the *FNPRM* observes that "[e]ven competitive LECs with well-developed regional fiber rings rely on an incumbent or competitive LEC wholesale inputs for last-mile connections. Leasing last-mile dedicated services from the ubiquitous incumbent LEC oftentimes is the only option due to a lack of competitive build-out."[121]

Action to limit market leaders' exploitation of this bottleneck would ensure more choices and lower prices for consumers of ultimate business communications solutions that utilize broadband data services, as well as enable a viable business case for competitors to invest in fiber in other portions of their network and—in some cases—to amass a customer base before building their own alternative last-mile facilities. Accordingly, as the Commission embarks on a new regulatory framework to govern business data services, it must be guided by two essential principles regarding the wholesale provision of last-mile access. First, wholesale rates should be below retail rates to ensure widespread downstream competition can exist and entry into business data services is not foreclosed by the inability to build a customer base before costly network builds. Second, rates for business data services provisioned over more efficient IP technologies should be lower than rates for comparable-capacity business data services provisioned over less

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[119] *TRRO* ¶ 63.

[120] *Qwest Phoenix Forbearance Order* ¶ 34. *See also Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area; Policy and Rules Concerning the Interstate Interexchange Marketplace*, Second Report and Order in CC Docket No. 96-149 and Third Report and Order in CC Docket No. 96-61, 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.").

[121] *FNPRM* ¶ 229.

efficient TDM technologies. The current market leaders, the large ILECs, are exercising their market power in contradiction of both of these principles.

1. Commission Action Should Ensure That Wholesale Last-Mile Inputs Are Priced Below Comparable Capacity Retail Offerings.

When subject to meaningful 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 recognizes this, and specifies that the savings should flow through to carrier customers, which can then charge their retail customers competitive rates for communications solutions.[122] Avoided and avoidable costs in these instances include network access costs for provisioning capacity outside the last-mile portions of the network, because the wholesale customer is purchasing only the last-mile component. If appropriate last-mile input rates are not ensured, providers dependent upon bottleneck last-mile inputs can be squeezed out of providing business communications solutions altogether.

Indeed, for well over thirty years, economists have recognized that "[w]hen several firms compete with one another in the sale of an identical final product, [and] where one of the firms is the monopoly owner of an input that is indispensable in the supply of that final product," the

[122] Specifically, Sections 251(c)(4) and 252(d)(3) of the Communications Act, 47 U.S.C. §§ 251(c)(4), 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." As Windstream previously has explained, this requirement covers Ethernet as well as TDM special access services sold from tariffs. *See* Windstream Dedicated Services Comments at 70-72.

price of the monopoly input must be priced below the retail price of the final product by the costs that the integrated monopoly owner incurs to provide the final product in addition to the costs of supplying the bottleneck input.[123] Referred to as the "Parity Pricing Rule" or the "Efficient Component Pricing Rule," this theorem teaches that "the price the bottleneck owner charges itself for [a] bottleneck input is simply the price the firm charges to the final-product customer, minus the incremental cost to the firm of the remaining inputs of the final product, including the requisite capital."[124] The objective of the Parity Pricing Rule "is to preserve and promote competition and efficiency in the competitive market for [non-bottleneck inputs]"—and thus in the final products—"even if the market for [the bottleneck input] retains its monopoly character."[125] As its progenitors explained, "[t]he parity principle tells us that this price that the bottleneck owner implicitly charges itself for [the] bottleneck input is the price at which competing final-product providers should be entitled to purchase [the] bottleneck input."[126]

Economists have also recognized that in the absence of the Parity Pricing Rule, the owner of the bottleneck monopoly input can have an economically rational, profit-oriented incentive to engage in anticompetitive price squeezes—i.e., raising the price of the monopoly input above parity—in order to gain market power and to foreclose competition in the downstream product markets. Ordover, Sykes, and Willig demonstrated that a dominant provider facing consumers with differential preferences among final products (as might occur in enterprise services with respect to different types of additional managed services) may be motivated to suppress

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[123] William J. Baumol, Janusz A. Ordover & Robert D. Willig, *Parity Pricing and Its Critics: A Necessary Condition for Efficiency in the Provision of Bottleneck Services to Competitors*, 14 YALE J. ON REGULATION 145, 147-150 (1997) ("Baumol, Ordover, Willig").

[124] *Id*. at 151.

[125] *Id*. at 147.

[126] *Id*. at 151.

downstream competition by raising the market price of the monopoly input well above parity in order to sustain its profitable price discrimination among downstream products.[127] Ordover, Sykes, and Willig also give as another example of motivation for anticompetitive price squeezes the existence of an "alternative, inferior source of supply" for the bottleneck input which could constrain the monopoly power of the dominant firm if competing suppliers of downstream products were not sufficiently weakened by foreclosure.[128]

Furthermore, as Professor Baker noted in his Reply Declaration:

> In 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. By doing so, the ILEC can discourage aggressive retail price competition from CLECs or preclude such competition altogether, thereby preventing rivalry with CLECs from eroding the ILEC's supracompetitive retail prices. In addition, by preventing retail competition, the ILEC may be able to prevent a CLEC from obtaining a "toehold" in the retail market that it might use in order to enter the wholesale market, and thereby maintain its market power at wholesale. Consistent with these incentives, ILECs often charge high wholesale prices for leased dedicated services connections relative to retail prices for similar connections.[129]

This is precisely what is occurring in the business data services market today. Windstream is seeing situations in which the ILEC's retail price is below the wholesale rate it charges to Windstream merely for the last-mile component of the same capacity and type of connection. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted]

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[127] J.A. Ordover, A.O. Sykes & R.D. Willig, *Nonprice Anticompetitive Behavior by Dominant Firms Toward the Producers of Complementary Products*, *in* ANTITRUST AND REGULATION: ESSAYS IN MEMORY OF JOHN J. MCGOWAN 115, 121 (Franklin M. Fisher, ed., 1985).

[128] *Id.* at 118.

[129] Baker Reply Declaration ¶ 16 (internal citations omitted). *See also* Steven C. Salop, *Refusals to Deal and Price Squeezes by an Unregulated, Vertically Integrated Monopolist*, 76 ANTITRUST L.J. 709, 711 & n.7 (2010).

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[redacted] *****END CONFIDENTIAL*****[131] This also 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 below AT&T and CenturyLink wholesale Guidebook rates.[132]

The fact that the Parity Pricing Rule was developed in the scenario of a monopoly supplier of the bottleneck input, and that some business data services markets may be characterized by duopoly—such as where an ILEC and cable provider both provide business data services at a particular bandwidth level—does not invalidate the Parity Pricing Rule. Duopolists may well experience incentives like those of a monopoly to suppress or foreclose downstream competition, and accordingly to set unilateral or coordinated wholesale prices above parity levels. Where the market does not itself yield wholesale pricing of a bottleneck input consistent

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130 *See* Windstream Declaration ¶ 95.

131 *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").

132 *See* CostQuest White Paper No. 1 at 12. *See also* Windstream Declaration ¶ 92.

with the Parity Pricing Rule and a market leader or leaders evidently use unilateral or coordinated market power to suppress competition from efficient non-integrated rivals, the foreclosing price for the bottleneck input should be characterized as anticompetitively discriminatory. Accordingly, any benchmark that the Commission adopts for Ethernet pricing in non-competitive areas that is based in whole or in part on retail prices must still be consistent with implementation of the Parity Pricing Rule in order to prevent anticompetitive discrimination by integrated market leaders in favor of themselves, even where the bottleneck input is supplied by duopoly rather than monopoly.

Finally, as the progenitors of the Parity Pricing Rule have cautioned, unless the Commission adopts measures to constrain anticompetitive pricing of the bottleneck input, resource misallocation, inefficiency, and stultification of consumer choice and innovation will result, harming consumers and social welfare.[133]

To implement the Parity Pricing Rule, the Commission should establish a safe harbor proxy for the seller's incremental retail costs not incurred for wholesale services. Although developed for switched local exchange services, the proxy range of 17 to 25 percent is reasonable to approximate the incremental costs of business sales alone.[134] In Windstream's experience, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted]

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[133] Baumol, Ordover, Willig at 150-51 ("[W]e have long emphasized that such overpricing of both final product and bottleneck input . . . must lead to resource misallocation and inefficiency. We have consequently always maintained that efficiency requires *both* ECPR and some arrangement that prevents overpricing of both final product and bottleneck input and, consequently, that removes all monopoly profit from the opportunity cost component of [bottleneck pricing].").

[134] *See* 47 C.F.R. § 51.611(b).

[redacted] *****END HIGHLY CONFIDENTIAL*****[135] This minimum level of discount should apply to TDM special access or retail Ethernet services.[136] Additionally, wholesale providers incur network expenses in providing IP connectivity and middle-mile transport when purchasing an ILEC last-mile input for service to an off-net retail customer that are comparable to costs that ILECs recover in their retail prices.[137]

2. Rate Benchmarks Should Reflect Increased Efficiency of Packet-Based Technologies.

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."[138] These efficiencies are

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[135] Schirack/Baer Declaration ¶¶ 5-7.

[136] If determing appropriate wholesale input rates based on retail Ethernet rates, there also should be a discount to account for the fact that the network costs incurred to provide a wholesale input (i.e., last-mile costs only) are only a subset of the costs incurred for retail service; retail service, unlike wholesale inputs, also entails transport and long haul over a provider's own network and those of third parties. *See id*. at ¶¶ 10-15 (describing network costs outside of the last mile).

[137] *See* Schirack/Baer Declaration ¶ 15.

[138] *Technology Transitions; Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, FCC 15-97, 30 FCC Rcd. 9372, 9462 ¶ 159 n.551 (2015) ("*Emerging Wireline Order*"). *See also Ensuring Customer Premises Equipment Backup Power for Continuity of Communications; Technology Transitions; Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers; Special Access for Price Cap Local Exchange Carriers; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, 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. on Notice of Proposed Rulemaking at 62,

recognized by both ILECs and cable incumbents. For example, the *FNPRM* cites a table, submitted in a USTelecom presentation and drawn from a white paper sponsored by Time Warner Cable, that highlights how retail customers are benefitting from "the cost efficient scalability of Ethernet versus TDM."[139]

Thus, in a competitive marketplace, one would expect rates for more efficient packet-based inputs to be lower than rates for TDM-based inputs of comparable capacity. But at lower bandwidth levels, ILECs commonly price their wholesale IP offerings not only above their retail offerings, but also above what they charge wholesale purchasers for comparable capacity in TDM. In particular, 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 a 1.5 Mbps circuit, i.e., a DS1 connection, is $126 per month under a 36-month commitment plan,[140] while AT&T's wholesale Guidebook lists the price of a comparable Ethernet connection of 2 Mbps with an "Interactive" Class of Service ("CoS") at $678 per month on a three-year term plan.[141]

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) ("Verizon Feb. 5, 2015 Comments") (finding fiber offers increased reliability, better performance, and improved energy efficiency).

[139] *FNPRM* ¶ 80, Figure 7 (citing USTelecom, *The FCC Should Not Pick Winners and Losers*, at 2 (Feb. 2016), https://www.ustelecom.org/sites/default/files/files/documents/USTelecom-White-Paper-3.pdf). But as discussed in further detail below, wholesale customers are not seeing the same level of packet-based cost savings, if any.

[140] *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) (specifying the Zone 2 and Zone 3 rate, which is $2 more per month than the Zone 1 rate). *See also* Windstream Declaration ¶ 98.

[141] *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

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The fact that large ILECs have been able to set Ethernet prices for wholesale purchasers at these unjustifiably high levels is confirmed by 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.[143] 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.[144] 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 transitioning to Ethernet will realize greater cost efficiencies."[145] 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,

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[142] *See* Windstream Declaration ¶ 97, *as corrected by* Letter from John T. Nakahata, Counsel to Windstream Services, LLC to Marlene H. Dortch, Secretary, FCC, at 1, WC Docket No. 05-25, RM-10593 (filed Feb. 5, 2016).

[143] *See* Letter from John Nakahata, Counsel to Windstream Services, LLC, to Marlene H. Dortch, Secretary, FCC, at Attachment 1, WC Docket Nos. 05-25, 15-247, RM-10593 (filed Mar. 14, 2016).

[144] *See id.*

[145] TeleGeography, *Local Access Pricing Service, H2 2015 Local Access Market Summary* at 15 (2015) ("TeleGeography H2 2015 Summary").

and "less expensive rates available within pockets of the central business district where multiple players compete at varying levels" on the other hand.[146] 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.[147]

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,"[148] and has "lagged behind other developed regions significantly in Ethernet."[149] 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."[150]

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[146] TeleGeography H2 2015 Summary at 11. *See also* TeleGeography, *Local Access Pricing Service, H2 2014 Local Access Market Summary* at 9 (2014) ("TeleGeography H2 2014 Summary") (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).

[147] TeleGeography H2 2015 Summary at 10.

[148] *Id*. at 12.

[149] TeleGeography H2 2014 Summary at 2.

[150] 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* Windstream Dedicated Services Comments at 53 (citing TeleGeography, *Local Access Pricing Service, H1 2014 Local Access Market Summary* at 2-4 (2014)) ("[T]he 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.").

Market leaders' failure to pass on their cost reductions for the provision of Ethernet last-mile inputs vis-à-vis TDM-based inputs is simply another way to raise prices for competitive carriers, to the detriment of consumers and competition. Effectively, the market leaders are imposing a tax on last-mile, packet-based services—and the communications solutions that depend upon those last-mile packet-based services—whereby competitors suffer a price squeeze if they use packet-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.[151] As previously noted, 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.[152] The market leaders' ability to raise rivals' costs for off-net connections adversely affects the business case for network builds.[153] Moreover, as WIK demonstrated, above-cost Ethernet prices that recognized the greater efficiencies of Ethernet would promote and stimulate Ethernet demand—speeding the IP transition.[154]

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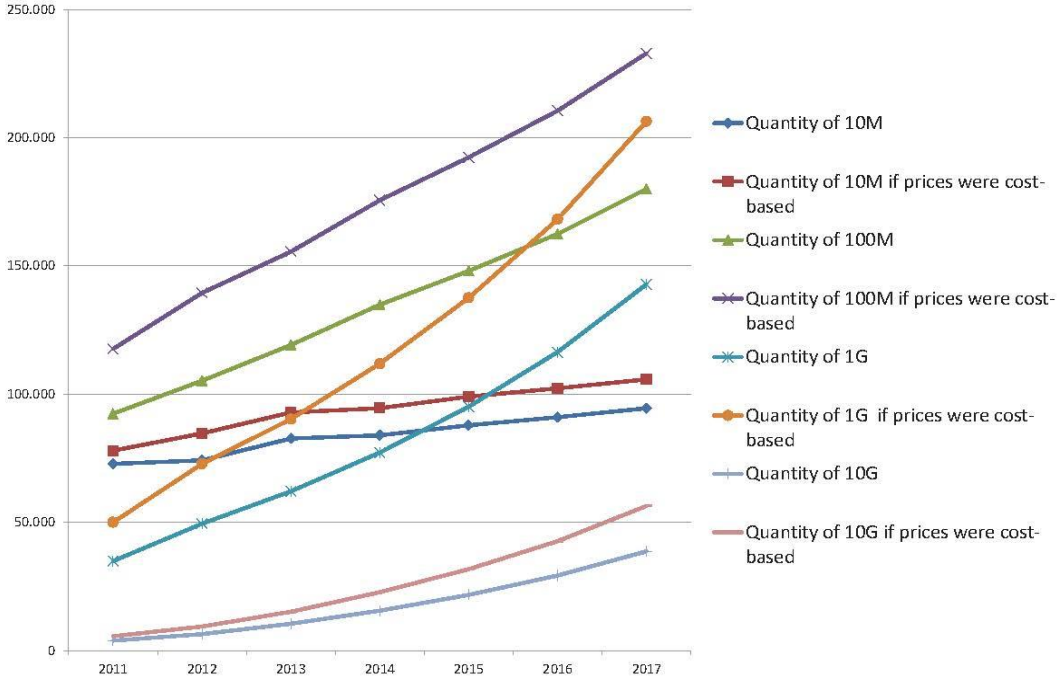
[151] *See* 47 U.S.C. § 1302(a) (requiring the Commission to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans").

[152] *See supra* Section III.D.

[153] *See* Baker Jan. 27, 2016 Declaration ¶ 78.

[154] WIK, *supra* note 6, at 54, Figure 22.

Figure 1: Actual prices per end point versus hypothetical cost-based prices for metro Ethernet services in the United States (unadjusted 2013 USD). [155]



By minimizing the market leaders' ability to execute a raising-rivals'-costs strategy through the IP Transition, the Commission will continue to promote fiber network builds by CLECs and the benefits of competition for business customers.

B. A Cost-Based Approach to Setting Price Benchmarks for Last-Mile Inputs Is the Best Choice for Addressing Market Power and Promoting Competition.

The optimal reform to achieve essential principles for ensuring competition and benefit to consumers in the IP Transition would be to adopt a cost-based approach to developing wholesale last-mile input price benchmarks for business data services in non-competitive product and/or geographic markets. This is best because it would base rates on verified costs of deploying packet-based business data services, rather than tether pricing to the inflated business data

[155] *Id.* (citing Source: Ovum data (2013), WIK/Marcus calculations).

services rates charged by market leaders today. And because the Commission can use existing tools available to it, modeling the cost of last-mile fiber facilities can be performed efficiently, and cost inputs can be readily updated to ensure that benchmarks are future-proof. The cost model's focus on last-mile connections responds to evidence, recognized by the Commission and discussed above, that these connections present barriers to entry that are lower for large incumbent business data services providers (and their affiliates) in their footprint than for unaffiliated competitive carriers, and evidence that current last-mile input prices reflect the exercise of the large incumbents' market power.[156]

Specifically, Windstream suggests a two-step approach that would effectively leverage a cost model to implement technology-neutral competition policy reforms. First, the Commission should use a cost model to calculate, for each given geographic area (to be determined), the average revenue per business data services customer location that would be required to recover the forward-looking economic costs (including a reasonable profit and a share of common costs for other parts of the network) of deploying, operating, and maintaining a fiber network with the capability to deliver a 1 Gbps connection to all business data services customer locations.[157] Because the revenue requirement would address recovery of last-mile costs under wholesale arrangements, the model would not include cost elements focused on retail service.

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[156] *See FNPRM* ¶¶ 233, 237 *et seq.* ("Incumbent LECs face lower overall barriers within region . . . . Carriers with incumbent LEC and competitive LEC affiliated entities confirm the lower incumbent LEC barriers to entry.").

[157] The revenue requirement would take into account factors including the market leader's market share, depreciation expenses, cost of capital (assumed to be 9.5 percent), and other operational expenses.

As CostQuest explained in a recent ex parte meeting,[158] the Commission can leverage existing platforms and inputs it has already reviewed and approved—the Connect America Cost Model ("CACM") and the Alternative Connect America Cost Model ("A-CAM")—to determine the revenue requirement.[159] These platforms are adaptable with respect to the size of the geographic unit in which to set benchmark prices, in contrast to the study area (or broader) geographies used in setting tariffs. Moreover, by using CACM and its inputs wherever possible, this approach offers a validated means for identifying the forward-looking, greenfield cost of building a fiber network to business data services customer locations. Implementation necessitates only limited development and data requirements initially, while offering the Commission flexibility to calculate new or revised costs by using updated inputs for components, such as electronics, or even for different network topologies. Such an approach captures the very significant technological efficiencies possible when business data services are provisioned as packet-based.

Second, the Commission should use the relationship between the market leader's service tier prices (keyed to the price for 1 Gbps service) and proportion of connections provided in each service tier to establish a set of benchmark prices for wholesale last-mile inputs in each selected market.[160] Determining a benchmark in this manner avoids disclosure requirements for specific

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[158] *See* Letter from John T. Nakahata, Counsel to Windstream Services, LLC, to Marlene H. Dortch, Secretary, FCC, at 2-3, WC Docket No. 05-25, RM-10593 (filed June 3, 2016) ("Windstream June 3, 2016 Ex Parte").

[159] *See FNPRM* ¶ 424 (referring to CACM and seeking comment on the modification of an existing cost model to provide the basis for establishing Ethernet rate benchmarks within price cap incumbent LEC service areas).

[160] In particular, wholesale last-mile input pricing benchmarks for different bandwidth tiers would be calculated using three sets of inputs: (1) the average wholesale last-mile revenue requirement per-location, which is the output of the cost model; (2) the relative price, expressed as a percentage, of the market leader's retail Ethernet circuit for each bandwidth tier, as compared to the market leader's retail price for a 1 Gbps Ethernet circuit; and (3) the

prices or circuit counts (instead, only percentage relationships are needed), sets evidence-based benchmarks that are technology-neutral, is flexible enough to accommodate the wide range of pricing tiers available for Ethernet, and recognizes Ethernet prices do not have a linear per-Mbps basis nor a perfect correlation with TDM special access prices. And notably, this approach avoids anchoring reforms on current business data services rates that include monopoly or oligopoly profits.

Sprint similarly has put on the record a description of its own, proprietary model that it uses to evaluate Ethernet pricing. Notably, Sprint documents that ILECs are charging rates substantially above cost, whether for wireless backhaul or for building access to business customers.[161] Regardless of whether the Commission were to use Sprint's model or a model based on the CACM, it is clear that consumers would gain substantially from a model-based benchmark. And as the WIK study submitted by BT demonstrates, it would be incorrect to assume that a cost-based reduction in Ethernet prices will lead to a reduction in ILEC revenue from Ethernet sales. In fact, BT's Ethernet revenues have increased as its prices have fallen.[162]

Moreover, as the study by WIK demonstrates, cost-based pricing would deliver substantial benefits to both business consumers and the economy as a whole. Based on Ovum data from 2013, WIK estimated that if the United States had moved to cost-based Ethernet rates in 2011, by 2016 business consumers would have saved nearly $11 billion, and stimulated nearly $30 billion in increased economic activity.[163]

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distribution of Ethernet circuits sold by the market leader across all of its bandwidth tiers at/below 1 Gbps, each expressed as a percent of the total number of Ethernet circuits sold.

[161] Letter from Jennifer Bagg, Counsel to Sprint Corporation, to Marlene H. Dortch, Secretary, FCC, at 2, WC Docket No. 05-25, RM-10593 (filed May 26, 2016).

[162] WIK at 39.

[163] *See id.* at 57.

In sum, the cost-based approach outlined above enables comprehensive pricing reform that targets the broken components of the business data services markets, while continuing to motivate incumbent and competitive investments in all areas where fiber deployment is economically feasible. This approach is designed to be technology-neutral, and the benchmarks can apply to the market leader regardless of whether it is an incumbent or competitive local exchange carrier, or a cable company. And by using existing Commission analytical tools, this approach is administratively efficient. Adopting this approach, the Commission can set wholesale last-mile benchmarks ensuring that, in non-competitive markets, just and reasonable rates are available for wholesale inputs, which in turn will enable widespread competition in retail business data services markets.

C. In the Alternative, the Commission May Make Meaningful Progress Toward Achieving Its Goals by Adopting a Modified Version of Its TDM Benchmarking Proposal.

Under a TDM benchmarking approach, the Commission proposes to "rely on regulated TDM service prices to anchor the prices of similar packet services."[164] The Commission identifies several ways in which this approach could be implemented, and indicates its preference for the third option it describes—which would "initially use reasonably comparable prices for regulated TDM services as a benchmark to help the Commission determine whether rates for various packet-based [business data services] are just and reasonable," but over time, would use, "as a benchmark, the packet-based [business data services] prices established under this approach."[165] While Windstream has some concerns about this approach,[166] Windstream

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[164] *See FNPRM* ¶ 422.

[165] *See id.*

[166] *See* Windstream June 3, 2016 Ex Parte at 3-4.

believes the TDM benchmarking proposal, with the provisions described below, is capable of making meaningful progress in response to the Commission's desire to prevent market leaders from "exercis[ing] market power through the charging of supracompetitive rates,"[167] while also "promoting facilities-based competition and facilitating technology transitions."[168]

Windstream, in particular, recommends the following measures to account for IP service efficiencies and different rate structures, as well as to avoid charges for costs business data services providers do not incur when selling service on a wholesale basis. First, the "anchor" for the benchmark should be a carrier's price cap regulated DS3 rates, including volume and term discounts, as they would stand after application of the full catch-up adjustment (e.g., -25 percent to 44 percent[169]) and any productivity adjustments, and, importantly, a discount to account for IP cost efficiencies. For the latter, the Commission should apply a factor for the extent to which non-U.S. 50 Mbps Ethernet prices are below DS3 TDM prices, as taken from TeleGeography's H2 2015 Local Access Pricing survey of Ethernet and TDM special access pricing in Global Enterprise Networks cities outside of the United States.[170] The survey, which provides a global indication of the extent to which Ethernet prices should reflect the greater efficiency of Ethernet as compared to TDM, shows that weighted average 50 Mbps Ethernet rates are 39 percent lower than corresponding DS3 rates in the survey.

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[167] *See FNPRM* ¶ 420.

[168] *See id.* ¶ 423.

[169] *See infra* Section V. As discussed in Section V, the Commission should also apply a rule that no DS1 or DS3 rates, including under tariffed optional discount plans, may increase.

[170] This is a list of major global metros, as defined by TeleGeography's Global Enterprise Networks study. Metros in this list are either economic hubs or technological hubs for the telecom space within their region.

Second, the Commission should use existing rate structures for Ethernet prices to array benchmarks for each Ethernet service level. This could be done simply using the percentage relationship to the 50 Mbps price under pre-existing prices. The same TeleGeography Local Access Pricing Survey of Global Enterprise Networks cities referenced above shows that, for U.S. cities, the weighted average price of a 10 Mbps Ethernet circuit is approximately 51 percent of the price of a 50 Mbps Ethernet circuit, with a 20 Mbps circuit priced on average at approximately 60 percent of a 50 Mbps circuit. Thus, if referencing this data set, the 10 Mbps benchmark would be 51 percent of the 50 Mbps benchmark as calculated in step 2, while the 20 Mbps benchmark would be equal to 60 percent of the 50 Mbps benchmark price. Similar calculations could be made for higher and lower bandwidths across the array of speed tiers offered in the market today.

Third, for wholesale sales, for the reasons discussed in Section IV.A, the Commission should apply a wholesale discount to reflect the lower costs of wholesale sales versus retail. Failure to do so would allow ILECs that offer both business data services and downstream enterprise solutions—which all do—to discriminate against competitors lacking last-mile business data service facilities. As discussed in Section IV.A.1, this discount should at least be equal to, if not greater than, the percentage commission awarded by business data services providers to channel partners for new enterprise sales.

D. In Any Event, the Commission Should Adopt Other Backstops That Assure Wholesale Prices Remain Below Retail Prices, and Prevent Rate Increases for the Most Vulnerable Business Data Services Customers.

Under any circumstance, the Commission should adopt backstops to reinforce the reforms recommended above. Such measures are needed to ensure business data services providers set wholesale last-mile input rates below their best retail rates, wholesale connectivity is not disrupted as customer connections transition to packet-based service, and vulnerable

customers purchasing DS1s today do not pay more when attaining similarly low bandwidth services in an IP format. These backstops are necessary to achieve the Commission's objectives to "facilitate the ability of carriers and customers alike to navigate the transition successfully and ensure that small- and medium-sized businesses, schools, libraries, and other enterprise customers continue to enjoy the benefits of competition."[171]

First, if the Commission does not deem all TDM special access services non-competitive (because they do not generate sufficient revenues to justify competitive overbuilding), the Commission should continue to apply the *Emerging Wireline Order* interim rule to lower-bandwidth business data services offerings in markets deemed competitive, at least with respect to legacy TDM connections currently used as wholesale inputs by competitive carriers for the next five years. In that Order, the Commission required that incumbent LECs seeking to discontinue, reduce, or impair a TDM-based special access service that is used as a wholesale input must, as a condition to obtaining discontinuance authority, provide competitive carriers reasonably comparable wholesale access on reasonably comparable rates, terms, and conditions.[172] In conjunction with reforms proposed above, extending this protection for five years would serve several purposes.

As Windstream has previously discussed, it today is making service commitments to retail customers that most often establish obligations for three to five years, through 2018 or beyond, because (1) customers want certainty and will seek out other providers (e.g., the large incumbents) if Windstream is not able to offer long-term arrangements, and (2) Windstream sometimes requires a longer commitment term to sufficiently recover service initiation expenses

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[171] *Emerging Wireline Order* ¶ 131.

[172] *Id.* ¶ 132.

(e.g., special construction costs).[173] Competitors must make these multi-year contractual commitments to retail business customers in the absence of commensurate commercial assurances from wholesale providers that last-mile access to comparable services at equivalent rates will be available to deliver on the full term of those obligations. This "hope-for-the-best" approach to business planning produces increasingly greater risk for competitive providers. It also impairs competitors' ability to engage in meaningful strategic planning and investment initiatives. Moreover, if the Commission eliminates this interim rule and thus permits ILECs to raise the prices of inputs suddenly and indiscriminately, it may cause substantial disruption for wholesale providers' retail customers in the middle of service contracts.

The Commission's competitive test will, for reasons of administrative simplicity, necessarily be inexact and treat as competitive some (perhaps many) locations to which the business data services purchaser does not have a competitive set of choices. Preserving this safeguard for five years will allow the Commission to evaluate the actual impacts of its business data services regime without causing disruption as to circuits already in use. For these reasons, it is critical that the Commission continue to require that ILEC business data services providers that are discontinuing these legacy TDM services offer replacement Ethernet services at reasonably comparable rates, terms, and conditions for the near term.

Second, to ensure that vulnerable customers purchasing DS1s today do not pay more when attaining similarly low bandwidth services in an IP format, the Commission should require as a backstop that the wholesale price of the lowest capacity level of business data services at or above the DS1 level shall not increase. For example, a 2 Mbps Ethernet price shall not exceed

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[173] *See, e.g.*, Letter from Malena F. Barzilai, Senior Government Affairs Counsel, Windstream, to Marlene H. Dortch, Secretary, FCC, at 2, GN Docket Nos. 13-5, 12-353, WC Docket No. 05-25, RM-10593 (filed Aug. 22, 2014).

the DS1 price when 2 Mbps is the lowest-bandwidth Ethernet option available. As the Commission recognized in the *Emerging Wireline Order*, without this protection, "incumbent LECs could avoid a rate standard 'by simply offering only high capacity (and therefore higher priced wholesale inputs).'"[174] Moreover, the Commission found that "the 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."[175]

E. The Commission Should Provide Sufficient Ex Ante Clarity to Avoid Undue Reliance on Lengthy and Expensive Complaint Processes.

No matter which path the Commission chooses in setting a wholesale Ethernet benchmark, it should set out clear ex ante guidance for the pricing of wholesale last-mile inputs. Undue reliance on ex post dispute resolution has two detrimental effects. First, as a practical matter, post hoc adjudications cannot provide timely redress to market leaders' misconduct. Second, clear ex ante guidance will better facilitate meaningful commercial negotiations.

The Commission has repeatedly seen the impact of market power on the commercial bargaining process. Particularly if the choice is to purchase the input at the inflated price or to forgo entering into a contract with the customer, the wholesale purchaser will have little choice but to sign the contract, even if it might otherwise be able to prevail in a complaint challenging the price.[176] As the Commission recognized in the *TRRO* when supporting the need for

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[174] *Emerging Wireline Order* ¶ 171 (internal citation omitted).

[175] *Id*.

[176] The inflated "price" to purchase service in the last-mile context may include not only the broadband data service provider's monthly recurring rate, but also special construction charges and cost recovery fees, which are discussed in Section VIII below.

availability of unbundled last-mile elements, by the time enforcement action can be taken, the CLEC's customer will have already made its procurement decision:[177]

> [A]lthough the Commission can and will take enforcement action against unlawful special access pricing . . . enforcement actions take place after a competitor has already suffered harm due to violation of the Commission's rules. We therefore are concerned that, as a response to a possible anticompetitive price squeeze in a market that has already witnessed the exit of many competitors, such relief would not be sufficient to prevent harm in the first instance to competitors relying on a wholesale input priced to effectuate a price squeeze.[178]

Similar rationale underpinned the Commission's decision to impose interim wholesale access protections in its *Emerging Wireline Order*, pending comprehensive reform in this proceeding,[179] and the Commission should ensure clarity here for the same reason.

Furthermore, the Commission's formal complaint process is difficult to initiate and expensive for all involved. A particular problem is that a complainant's case frequently must rely on information in the possession of the respondent, but the formal complaint rules reject "information and belief" pleading. To address that problem, a carrier's Ethernet pricing benchmarks must be public, and the prima facie requirements for complaining about an attempt to charge above benchmark rates must be simple and readily accessible to the complainant. And if the respondent is going to mount an affirmative defense, such as higher costs, it must be required to come forward with that evidence.

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[177] And as noted in Section IV.D, business data services customers usually enter into multiyear service agreements, so there is little or no ability for this decision to be reversed for an extended period of time.

[178] *TRRO* ¶ 62.

[179] *See Emerging Wireline Order* ¶¶ 131-32 (requiring ILECs seeking discontinuance authority with respect to a TDM-based special access service to provide, as a condition of discontinuance, competitive carriers with reasonably comparable wholesale access on reasonably comparable rates, terms, and conditions).

Some lessons also can be learned from other settings. First, a set of open-ended criteria lacking real-world anchors frustrates any adjudication, and allows a party with market power to continue to exercise that power, as was the experience under the Commission's data roaming rules prior to the *T-Mobile Declaratory Ruling*.[180] Second, in the pole attachment context, the Commission has long permitted a party to sign a pole attachment agreement, but then to challenge the reasonableness of the rates or terms.[181] The Commission should expressly embrace such a process here.[182] Third, in the context of interconnection negotiations, the Commission adopted a rule that required an incumbent LEC to exchange traffic at proxy rates, pending negotiation and, if necessary, arbitration of final rates.[183] By analogy, the same could apply here, with a business data service provider seeking to charge more than the benchmark rate required to provide service at the benchmark rate while any dispute is adjudicated.

V. DS1 AND DS3 RATES, INCLUDING DISCOUNT PLANS, SHOULD BE SUBJECT TO PRICE CAPS, SUBJECT TO A SUBSTANTIAL CATCH-UP ADJUSTMENT, AND A GOING-FORWARD PRODUCTIVITY ADJUSTMENT.

As the Commission noted in the *FNPRM*, TDM business data services remain significant—nearly 60 percent ($26 billion) of the $45 billion in business data sales as of

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[180] *See Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, Declaratory Ruling, DA 14-1865, 29 FCC Rcd. 15,483, 15,484 ¶¶ 5, 8, 10, 13, 31 (Wireless Telecomms. Bur. 2014) (discussing *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, Second Report and Order, FCC 11-52, 26 FCC Rcd. 5411, 5450-51 ¶¶ 80-81 (2011), *aff'd sub nom. Cellco P'ship v. FCC*, 700 F.3d 534 (D.C. Cir. 2012)).

[181] *See Implementation of Section 224 of the Act; A National Broadband Plan for Our Future*, Report and Order and Order on Reconsideration, FCC 11-50, 26 FCC Rcd. 5240, 5292-95 ¶¶ 119-125 (2011) ("*Pole Attachment Order*").

[182] *See infra* Section IX.

[183] *See* 47 C.F.R. § 51.715.

2013.[184] For Windstream, TDM business data services remain an important input for TDM and packet-based services, particularly for customers needing service at or below 45 Mbps, because ILECs frequently have priced wholesale Ethernet inputs above TDM levels, notwithstanding Ethernet's greater efficiency.[185] As part of reforming the regulatory regime for business data services, prices for these TDM services must be subject to price caps in all areas and also fall below current TDM discount plan rate levels.

There is substantial evidence in the record that ILECs, notwithstanding the existence of price caps in those areas not subject to Phase 2 pricing flexibility, have been able to exercise market power. As the *FNPRM* notes, ILECs have almost no headroom under their price cap indices, indicating that they are not being forced by market forces to price below the caps.[186] Dr. Rysman found that the presence of competition lowered prices for DS1 and DS3 lines by statistically significant amounts.[187] Dr. Baker similarly found that ILEC prices for DS1s and DS3s declined as the number of in-building competitors increased.[188]

Sprint, with its comments in response to the *FNPRM*, is filing the declaration of a former FCC Chief Economist, Dr. David E. M. Sappington, and Mr. William Zarakas of the Brattle Group. Dr. Sappington and Mr. Zarakas find that a one-time catchup reduction of between 25 and 44 percent is warranted to capture the productivity gains that have accrued to the ILECs since the expiration of the CALLS Plan in 2005.[189] Windstream agrees that a catch-up reduction

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[184] *See FNPRM* ¶ 90.

[185] *See supra* Section IV.

[186] *FNPRM* ¶¶ 240-241 and Table 6.

[187] Rysman White Paper, 31 FCC Rcd. at 4939-41.

[188] Baker Jan. 27, 2016 Declaration Table 2.

[189] Declaration of David E. M. Sappington and William P. Zarakas ¶¶ 17-29, appended as Exhibit E to Comments of Sprint Corporation, WC Docket Nos. 05-25, 16-143, RM-10593

to the special access price cap indices in this range would be appropriate. In addition, to mitigate the potential for anticompetitive behavior and to ensure that price cap reductions flow through to wholesale purchasers, including those purchasing through optional tariffed discount plans, the Commission should also establish a rule that no DS1 or DS3 rates, whether the "rack" rate or a rate under an optional plan, can increase. This is similar to the safeguards the Commission adopted for intercarrier compensation reform in which it capped price cap carriers' interstate access rate elements and did not permit them to increase.[190] If the Commission does not take this step, it is possible that a price cap carrier could increase some rates—such as eliminating the optional plans used by many wholesale purchasers—while lowering "rack" rates or even rates for services within the special access basket, but outside the DS1 and DS3 service bands.[191]

Windstream also agrees that there at least should be a 4.4 percent productivity factor (which would be offset by inflation) applied going forward, as reflected in the Verizon-INCOMPAS letter.[192]

(filed June 28, 2016) ("Sappington/Zarakas Declaration"). Of course, DS1 and DS3 demand in Phase 2 pricing flexibility areas should be brought back into price caps at rates subject to price caps prior to applying a catch-up adjustment. In other words, bringing Phase 2 areas back into price caps will not increase the PCI or SBI.

[190] *See, e.g.*, 47 C.F.R. § 51.907(a).

[191] Without such a safeguard, a price cap carrier can increase DS1 and DS3 rates by up to five percent, so long as it reduces other rates within the special access to bring its API down to the PCI. *See* 47 C.F.R. § 61.47(e)(1).

[192] *See* Verizon-INCOMPAS Letter at 2-3. *See also* Comments of Sprint Corporation at 54-58, WC Docket Nos. 05-25, 16-143, RM-10593 (filed June 28, 2016); Sappington/Zarakas Declaration ¶¶ 34-35.

VI. TO PREVENT RATE INCREASES FOR LOWER BANDWIDTH CUSTOMERS, THE COMMISSION SHOULD CONFIRM THAT UNBUNDLED DS1 AND DS3 CAPACITY OBLIGATIONS APPLY TO LOOPS THAT ARE COMPRISED OF FIBER AND/OR TRANSMIT TRAFFIC IN AN IP FORMAT.

In addition to adopting the business data service reforms recommended above, the Commission should grant Windstream's petition for declaratory ruling to confirm that obligations to provide DS1 and DS3 capacity loops on an unbundled basis are not altered or eliminated when the loops use fiber and/or convey traffic in an IP format.[193] These loops make it possible for competitors to offer many smaller sites of business, nonprofit, and government entities a meaningful choice in affordable Ethernet services. Congress enacted the unbundling requirements of Section 251(c) of the Communications Act "with a recognition of the market barriers faced by new entrants," and intended for unbundled network elements to be available as "an alternative to" special access services where limited access to the bottleneck facilities would impair a competitive carrier's ability to provide the services it seeks to offer.[194] And as the Commission notes in the *FNPRM*, "[o]btaining UNEs often is the most economical way to reach a new customer for a competitive LEC."[195] Competitive carriers losing access to this unbundled capacity would result in higher prices and fewer choices for smaller business data services customer locations.

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[193] *See FNPRM* ¶ 57 (noting the pending petition).

[194] *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, FCC 03-36, 18 FCC Rcd. 16,978, 16,984, 16,998-17,001 ¶¶ 5, 19-23 (2003), *judgment vacated in part, review dismissed in part, U.S. Telecom Ass'n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004). *See also TRRO* ¶ 51; 47 U.S.C. § 251(d)(2).

[195] *FNPRM* ¶ 228.

Econometric evidence in the FCC's business data services rulemaking shows that UNEs—although limited in availability—partially discipline ILEC business data services pricing. In particular, Professor Baker found that an in-building UNE-based provider lowers the ILEC price by an additional 3.69 percent for any given number of in-building and nearby providers.[196]

Nevertheless, the large ILECs disclaim any post-IP transition obligation to provide unbundled DS1 and DS3 capacity loops.[197] AT&T has claimed that there is "no high capacity loop UNE requirement in an all-IP environment,"[198] and disavows any plans to ensure that the access provided "is functionally equivalent to that provided immediately before the experiment" through unbundling, notwithstanding the Commission's direction.[199] Likewise, in its recent notices of intent to retire its copper facilities in certain wire centers, Verizon states that after the retirement it will "no longer offer services over copper facilities," with no mention of its

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[196] Baker Jan. 27, 2016 Declaration ¶ 58.

[197] *See* Verizon's Opposition to Windstream's Petition for Declaratory Ruling at 2, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015); Opposition of AT&T Services, Inc., at 3-4, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015); Comments of CenturyLink at 3, WC Docket No. 15-1, GN Docket No. 13-5 (filed Feb. 5, 2015).

[198] Letter from Robert C. Barber, General Attorney, AT&T, to Marlene H. Dortch, Secretary, FCC, at 11, GN Docket Nos. 13-5, 12-353, WC Docket No. 09-223, RM-11358 (filed May 30, 2014). *See also* Reply to Comments of AT&T Services, Inc., at 40-41, GN Docket Nos. 13-5, 12-353 (filed Apr. 10, 2014).

[199] *Technology Transitions; AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition; Connect America Fund; Structure and Practices of the Video Relay Service Program; Telecommunications Relay Services And Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; Numbering Policies for Modern Communications*, Order, Report and Order and Further Notice of Proposed Rulemaking, Proposal for Ongoing Data Initiative, FCC 14-5, 29 FCC Rcd. 1433, 1528 ¶ 35 (2014).

continuing obligations to provide access to DS1 and DS3 capacity unbundled loops pursuant to 47 U.S.C. § 251(c)(3) and 47 C.F.R. § 51.319(a)(4)-(5).[200]

As Windstream and others—including numerous state commissions—have explained, the large 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* ("*TRRO*").[201] The *TRRO* emphasized that unbundled DS1 and DS3 capacity 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."[202] Indeed, the Commission's decisions to

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[200] *See, e.g.*, *Public Notice of Retirement of Copper Loops Under Rule 51.333(a)*, VERIZON, at 2 (Feb. 23, 2016), http://www.verizon.com/about/sites/default/files/MA-9-WCs-Copper-Retirement-Feb-23-2016-NOTICE.pdf (providing notice for nine wire centers in Massachusetts).

[201] *See* Reply Comments of Windstream Services, LLC With Respect to Its Petition for a Declaratory Ruling at 8-16, GN Docket No. 13-5, WC Docket No. 15-1 (filed Mar. 9, 2015). *See also, e.g.*, Letter from Gregory J. Doyle, Manager, Telecommunications, Minnesota Department of Commerce, to Marlene H. Dortch, Secretary, FCC, at 2, WC Docket No. 15-1 (filed Mar. 28, 2016); Letter from Karen Charles Peterson, Commissioner, Massachusetts Department of Telecommunications and Cable, to Marlene H. Dortch, Secretary, FCC, at 2-3, WC Docket No. 15-1 (filed Mar. 16, 2016); Letter from David E. Screven, Assistant Counsel, Pennsylvania Public Utility Commission, to Marlene H. Dortch, Secretary, FCC, at 1-2, WC Docket No. 15-1 (filed Mar. 11, 2016); 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); 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 Utilities and Transportation Commission, to Marlene H. Dortch, Secretary, FCC, at 2-3, WC Docket No. 15-1 (filed Feb. 11, 2016). *See also* Letter from Philip J. Macres, Counsel to Midwest Association of Competitive Communications, to Marlene H. Dortch, Secretary, FCC, at 2-3, WC Docket No. 15-1 (filed Apr. 21, 2016).

[202] *TRRO* ¶ 63.

forbear from dominant carrier regulation of Ethernet special access service for the large ILECs are predicated in part on the existence of unbundled network element alternatives.[203]

Without unbundling obligations for DS1 and DS3 capacity loops, ILECs would be able to drive up prices and reduce choices for lower-bandwidth business data services customers. The use of fiber or IP transmission does not magically erase the impairment that justifies DS1 and DS3 capacity loop unbundling. Indeed, those same sources of impairment continue to exist and continue to erect barriers to entry into additional buildings even when a CLEC serves other buildings in the same census block on its own fiber-based last-mile connections.[204] 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.[205] Likewise, in upholding the requirement that incumbents provide competitive access to newly deployed entrance conduit in brownfield areas at regulated rates, the Commission recognized that incumbents still have an inherently "more favorable environment" for building out last-mile facilities "due to existing relationships with

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[203] *See, e.g.*, *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 Under Section 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, 18,716-17 ¶ 20 & n.86 (2007) ("[W]e observe that the relief we grant excludes TDM-based, DS1 and DS3 special access services. Thus, those services, in addition to section 251 UNEs, remain available for use as wholesale inputs for these enterprise broadband services.").

[204] *See supra* Section III.C.

[205] *Qwest Phoenix Forbearance Order* ¶ 90.

property owners and prospective customers."[206] The Commission should not permit ILECs to use the IP Transition as an excuse to engage in self-deregulation of lower bandwidth connections where competition continues to be impaired.

VII. THE COMMISSION MUST PREVENT ILECS FROM UNJUSTIFIABLY RAISING RIVALS' COSTS THROUGH IMPOSING TDM SPECIAL ACCESS SHORTFALL PENALTIES WHEN MIGRATING TO ETHERNET.

While a step in the right direction, the measures adopted in the Commission's *Tariff Investigation Order* are not enough to block ILECs from significantly discouraging the IP Transition through manipulation of shortfall penalties and early termination fees. Given the continuing ILEC market power over TDM services, the Commission must limit the application of penalties and fees where wholesale purchasers are reducing TDM purchases but making up for the reduction—or more than making up for it—with increased spending on Ethernet circuits. Because these commitments were tied to historical circuit purchases, which necessarily could not reflect ongoing technological changes, to at least partially reduce negative competitive impacts, the Commission should require business data services providers to allow carrier customers participating in tariff discount plans with portability to reset their commitment quantities after each shortfall penalty assessment. This would allow ILECs to extract a penalty once, but not repeatedly, in the face of ongoing technological change.

As Windstream has noted previously,[207] certain large ILEC tariffed commitment plans impose punitive shortfall charges if a wholesale customer fails to meet the minimum committed volumes based on historic TDM special access purchase levels, and do not allow the customer to

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[206] *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, ¶ 83 (rel. Dec. 28, 2015).

[207] *See* Opposition of Windstream Services, LLC at 15, WC Docket No. 15-247 (filed Feb. 5, 2016) ("Windstream Opposition").

"count" purchases of Ethernet circuits toward that minimum commitment. As the IP Transition advances, a competitive provider locked into such a plan faces potentially staggering penalties under its TDM special access discount agreement. This regime substantially raises wholesale input costs for rivals that are seeking to expand their offerings using Ethernet inputs, and makes it increasingly difficult for competitive providers to compete with the ILEC's retail offerings. This can be true even when the competitor is replacing TDM services with purchases of Ethernet services that more than cover the shortfall, and even when the TDM tariff option under which the shortfall penalty is imposed includes circuit portability such that the wholesale purchaser's spend is not tied to a specific end user location. In particular, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****[208]

And while wholesale purchasers overall are paying large ILECs *more* than ever before for business data services inputs, ILECs' overall costs for provisioning these services, in contrast, are *less* than when provisioned exclusively with legacy technology and facilities. The large ILECs would not have voluntarily transitioned to newer technologies if this were not the case. Indeed, USTelecom confirms that Ethernet services are "technologically superior to, and

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[208] *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

more economically efficient than" legacy services provided using TDM.[209] And in this particular context, the large ILECs have consistently failed to provide any facts that establish that their voluntary transition to IP-based business data services offerings overall has resulted in a net increase to their costs.[210]

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[209] *The FCC Should Not Pick Winners and Losers*, USTELECOM, at 2 (Feb. 2016), https://www.ustelecom.org/sites/default/files/files/documents/USTelecom-White-Paper-3.pdf.

[210] The ILECs have attempted multiple, strained arguments; none justify their practices. In particular, Verizon contends that it "has to bear the costs of physically connecting new circuits and disconnecting old ones when customers take advantage of circuit portability." *See* Rebuttal Case of Verizon at 7, WC Docket No. 15-247 (filed Feb. 26, 2016). AT&T makes a similar argument. 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. As noted above, 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. And 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. *See* Verizon Feb. 5, 2015 Comments at 5-8 (stating that fiber offers increased reliability, better performance, and improved energy efficiency). Verizon adds that "portability reduces the time over which Verizon can recover those circuit-specific, non-recurring costs," Direct Case of Verizon at 61, WC Docket No. 15-247 (filed Jan. 8, 2016), but this cannot justify ignoring Ethernet purchases 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.

In light of the ongoing transition of all service providers and many retail users to IP, the Commission should find that it is unjust and unreasonable for ILECs to preclude competitive carriers' purchase of Ethernet circuits from counting toward the attainment of tariff commitments and should adopt two specific measures to that end. *First*, the Commission should require ILECs to count Ethernet purchases toward the attainment of legacy TDM volume commitments with circuit portability. In particular, the Commission should specify that ILEC volume commitments for a specified number of TDM circuits be translated into a total spend commitment and allow expenditures on Ethernet to apply toward that total,[211] without onerous conditions like the ones in certain ILEC tariffs' "migration" provisions.[212] *Second*, the Commission should prevent ILECs from applying early termination liability to instances where a TDM special access connection is prematurely disconnected and replaced with Ethernet, either at the same customer location or at any customer location for disconnected TDM connection that is part of a tariff commitment plan that includes circuit portability, of at least equal capacity to the end of the previously committed term (or if the remaining TDM term is longer than the longest Ethernet

[211] If the ILEC has established separate volume commitments for DS1 and DS3 special access services, the Commission could permit wholesale providers to count purchases of Ethernet at bandwidths of 12 Mbps or less toward the DS1 spend commitment, and purchases of Ethernet at bandwidths of more than 12 Mbps but less than or equal to 100 Mbps toward any DS3 spend commitment. These Ethernet thresholds are the same as those adopted by the Commission in the *2015 Emerging Wireline Order* when examining whether the pricing for IP replacement services is reasonably comparable to the price of the TDM services being eliminated. *See Emerging Wireline Order* ¶ 165.

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

term commitment, to the end of that Ethernet term commitment).[213] These reforms to tariff commitments would go the furthest in advancing the public interest in the IP Transition.

Adopting these two measures is squarely within the scope of the Commission's discretion. As elaborated upon in Windstream's prior comments, Commission action is justified by the ample record demonstrating harm resulting from these punitive and anticompetitive terms and conditions.[214] Such action would not undermine the ILECs' stated business justifications for implementing discount plans.[215]

Furthermore, at a minimum, the Commission should institute a "fresh look" opportunity for tariff discount plans that provides customers the ability to reset their commitment quantities after each shortfall penalty assessment.[216] Such a requirement is appropriate given that these commitments were—as dictated by the ILECs—based on historical purchases, which do not reflect the current, rapid transition to purchases of IP-based services, with dramatic year-to-year reductions in customers' demand for TDM services. Failure to allow business data services carrier customers to reset commitment quantities to more reasonable levels impedes IP transitions by subjecting them to ever-rising shortfall penalties—essentially paying over and over again for the same TDM circuits that are no longer in service—even while their overall

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[213] 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.

[214] *See* Windstream Opposition at 18-20.

[215] *See id.* at 20-22 (noting that this differentiates the present issue from the scenario in *BellSouth Telecomms. Inc. v. FCC*, 469 F.3d 1052, 1060 (D.C. Cir. 2006), which focused on whether volume discount plans were discriminatory in favor of Bell affiliates). In addition, any concerns arising out of the filed rate doctrine will be eliminated if, as the Commission has proposed, it eliminates tariffs for all business data services.

[216] *See FNPRM* ¶ 460 ("We seek comment on approaches that would encourage the transition to Ethernet while limiting an incumbent LEC's ability to leverage its market position in the provision of TDM BDS to gain a similar position in the provision of Ethernet offerings.").

purchasing volume with the ILEC is increasing. Moreover, "fresh look" opportunities do not "unreasonably deprive price cap incumbent LECs of the benefit of their bargain,"[217] as evidenced by the fact that both Verizon and Frontier include such provisions in some of their current tariffs.[218] Finally, permitting resets of commitments does not prevent ILECs from being able to collect shortfall penalties. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

VIII. THE COMMISSION MUST PREVENT A MARKET LEADER FROM RAISING RIVALS' COSTS THROUGH INAPPROPRIATE SPECIAL CONSTRUCTION CHARGES.

As the Commission recognizes in the *FNPRM*, there is a danger that carriers will be able "to increase prices above [any] benchmark by imposing unreasonable charges on related services, such as special construction."[219] Indeed, 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.[220]

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[217] *See id.*

[218] *See, e.g.*, Verizon Tel. Cos. Tariff FCC No. 14 § 5.6.14(E) (effective May 6, 2010); Frontier Tel. Cos. Tariff FCC No. 14 § 5.6.14(E) (effective Apr. 1, 2016); Frontier Tel. Cos. Tariff FCC No. 5 § 5.6.14(E) (effective July 1, 2010) (noting that "[w]hen a penalty is assessed at the annual review . . . the number of DS1 SALs in service will become the commitment quantity for the balance of the commitment term or until such time as a subsequent adjustment is required.").

[219] *FNPRM* ¶ 432.

[220] *See* Letter from John T. Nakahata, Counsel to COMPTEL, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 13-5, PS Docket No. 14-174, WC Docket No. 05-25, 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)

To prevent ILECs or any other market leader from raising rivals' costs and undermining competition through unreasonable charges on special construction, the Commission should mandate that, where a CLEC is ordering TDM-based or packet-based special access services, the market leader may only impose special construction charges for network build-out where specific conditions, articulated below, are met. The Commission has ample authority to regulate special construction practices regardless of any ILEC forbearance granted with respect to specific packet-based services.[221]

ILECs 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, CLECs and retail business data services customers have increasingly observed large ILEC imposition of unwarranted special construction charges as a way to impose de facto, additional last-mile price increases. This is particularly the case with fiber, and among ILECs, Verizon's practices are particularly egregious. XO noted last year that the percentage of cases in which special construction is imposed is more than 80 times higher for Verizon than AT&T.[222] Windstream's own data show—based on an analysis submitted to the Commission that compares special construction quotes to completed orders for the first three quarters of 2015—that Verizon is more

("COMPTEL 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, WC Docket No. 05-25, RM-10593 (filed Oct. 6, 2015) ("Windstream October 6, 2015 Ex Parte").

[221] *See* Windstream Dedicated Services Comments at 95-97 (explaining that no ILEC has sought or obtained forbearance from requirements to tariff special construction and from requirements that special construction charges be just and reasonable and not unreasonably discriminatory).

[222] Letter from Karen Reidy, COMPTEL, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 13-5, 12-353, WC Docket No. 05-25 (filed Apr. 23, 2015).

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.[223]

AT&T presents separate problems. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

Unwarranted special construction charges, whether imposed on orders for TDM-based or packet-based services, have a negative impact on business, nonprofit, and government consumers—by driving up prices these customers pay, and by often erecting a pricing barrier to use of competitive alternatives that is so high that customers essentially have no choice but to stay with the incumbent. The Commission has long recognized that charges for facilities construction can be a source of impermissible unreasonable discrimination, and a means to attempt to avoid the "basic common carrier responsibility" for "planning and investing in facilities" to respond to reasonable requests for service.[224] Special construction charges, in particular, are not justified simply because existing facilities so far have only been used for a different type of service, or "simply because existing facilities are fully utilized and additional facilities are necessary."[225] Indeed, the Commission has long held that, if a "facility is fungible,"

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[223] Windstream Declaration ¶ 101.

[224] *See Investigation of Access and Divestiture Related Tariffs*, Memorandum Opinion and Order, FCC 84-51, 97 F.C.C.2d 1082, 1213 (1984).

[225] COMPTEL May 27, 2015 Ex Parte at 2 (*quoting Am. Tel. & Tel. Co. Revisions to Tariff F.C.C. Nos. 258 & 260, & the Establishment of Tariff F.C.C. No. 269, for Series 7000*

and "if a long term customer ceases to use it the facility would become available to serve other long term or occasional customers," special construction charges are improper.[226] Nevertheless, Windstream and other CLECs continue to experience unwarranted and/or excessive special construction charges, which are becoming an increasingly popular form of de facto last-mile price increases.

To address unjustified, competition-impeding special construction practices, the Commission should mandate that, where a CLEC is ordering TDM-based or packet-based special access services, the market leader may only impose special construction charges for network build-out where *both* of the following two conditions are met. *First*, existing facilities, even with routine maintenance and conditioning, do not have capacity available at or above the level requested by the CLEC. In the case of a CLEC requesting a service that requires fiber, this condition is fulfilled where the market leader does not already have fiber connecting to the relevant location.[227] In the case of a CLEC requesting a service that can be provided over copper, this would be fulfilled where (a) the market leader has tested and found that no spare copper loop facilities would be capable of fulfilling the CLEC's order, even with routine maintenance and conditioning,[228] and (b) the market leader does not have fiber at the relevant

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Terrestrial Television Transmission Servs., Memorandum Opinion and Order, FCC 82-52, 88 F.C.C.2d 1656, 1665 ¶ 16 (1982) ("*1982 AT&T Tariff Order*")).

[226] *Id*. (*quoting 1982 AT&T Tariff Order* ¶ 15).

[227] A market leader also should not be permitted to charge for construction of duplicative fiber if it already has fiber with capacity available at the customer location. This includes instances where an ILEC has fiber running to a building but the fiber's Optical Line Terminal may not connect to the appropriate port to support the requested service (e.g., a GPON network that does not connect from the OLT to an Ethernet port). To the extent new electronics must be added either at the Central Office or the customer premises, or additional intra-building cable must be installed, that work may be subject to special construction charges if other conditions are satisfied.

[228] Examples include removal of bridge taps and loading coils.

location. *Second*, the special construction charges must not address the costs of network delivery infrastructure that the market leader will use for its own operations. The market leader instead should only impose special construction charges where it must deploy new network delivery infrastructure (e.g., conduit, subduct, buried, aerial infrastructure) to fulfill a CLEC's request, and where it certifies that it will not use the infrastructure—including the supporting infrastructure, such as conduits and poles—for any of its or its affiliates' retail services in the future.[229]

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[229] This market leader certification is consistent with—and, indeed, cannot and should not override—the basic requirement that the ILEC cannot charge for any facilities that it can use to serve other customers. In application, this means the ILEC should not charge special construction for any of the following:

- Construction and interconnection of a link between the GPON ONU and, as applicable, a market leader's serving Ethernet or TDM node;
- Poles that are not limited to the CLEC customer's exclusive future use;
- Any costs for conduit, subduct, buried or aerial infrastructure when
    - This infrastructure is located in a public right-of-way, except in circumstances where the market leader certifies that it will not have any other future use for the infrastructure (e.g., the infrastructure runs to a single customer at a particular location, and no other customers are located along the route or at the terminus point of the infrastructure); or
    - The infrastructure traverses private property but will serve a multi-tenant location;
- Fiber or cable that is not limited to the CLEC customer's exclusive future use;
- Any splitters, amplifiers, or other passive infrastructure that have the capability to serve more than the CLEC's customer at the same location or locations that could be served from the same fiber;
- Any network electronics and/or equipment that have the capability to serve more than the CLEC's customer;
- Any intra-building cable that could be used to serve more than the CLEC's customer;
- Power plant augmentation (e.g., battery backup, commercial power feed, rectifiers, uninterruptable power supply) required for electronics that have the capability to serve more than the CLEC's customer; or
- Labor for which a market leader would derive any benefit other than that needed to fulfill the CLEC's order (for example, an ILEC should not be able to charge all the way from a central office to a building when the bulk of the fiber on the run from a central office to a

The Commission in *Am. Tel. & Tel. Co. Revisions to Tariff F.C.C. Nos. 258 & 260, & the Establishment of Tariff F.C.C. No. 269, for Series 7000 Terrestrial Television Transmission Servs.*, clearly established that future reuse counts as the telephone company's "requirement for the facilities requested."[230] This makes sense. If in three years, for example, the customer rebid its contract for services at its location, the ILEC could use the facility it installed at the CLEC's request as the basis for the ILEC's own bid—a benefit which, if special construction had been charged, would have been underwritten by the CLEC. In addition, as COMPTEL (now INCOMPAS) explained, if "no other requirement" were to be interpreted to the time of the order, "special construction would always apply when a wholesale order was the first placed for a location, but the [market leader] could then sell services utilizing those facilities to others, and effectively obtain a double recovery of the costs of the facilities."[231] And even if the market leader did not set its retail price to recover those costs from its end users, the market leader would be recovering 100 percent of joint or common costs from the wholesale purchaser and none from its retail purchasers, which is both unreasonably discriminatory and anticompetitive.[232] The Commission has ample authority to regulate market leader special construction practices to ensure these abuses do not occur.

Furthermore, to ensure that special construction charges do not cause significant delay in deployment of competitive services to customers, the Commission should require that the ILEC

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splice box, or place where a splice box could be placed, will support service to other customers, either at that location or at locations passed en route).

See Windstream October 6, 2015 Ex Parte.

[230] *See 1982 AT&T Tariff Order* ¶ 16.

[231] COMPTEL May 27, 2015 Ex Parte at 8.

[232] *See id.*

respond to a CLEC's request within five days with an explanation of the basis for its conclusions that special construction is needed (consistent with the tariff) and a detailed cost estimate for the special construction.[233] The ILEC also should be required to submit to a reasonable number of audits per year to ensure that its no-use certifications remain valid.

IX. THE COMMISSION SHOULD PROHIBIT NDAS THAT PREVENT CUSTOMERS FROM DISCLOSING BUSINESS DATA SERVICES PRICES AND TERMS TO THE FCC.

To provide appropriate oversight of the business data services market, the Commission should prohibit use of NDAs or their functional equivalents that prevent wholesale customers from disclosing rates, terms, and conditions in business data services commercial agreements to government entities with oversight responsibilities.[234] As the Commission notes, it must "ensure its access to the information necessary to discharge its core statutory duties," and "NDAs that obstruct this access may unreasonably interfere with the core oversight functions of the Commission and undermine the public interest in a full and complete record on which the Commission can base its decisions."[235] A prohibition on the use of NDAs to prevent such disclosure would be consistent with the Commission's finding in the pole attachment context that a demand for a clause waiving a wholesale customer's "right to federal, state, or local regulatory relief would be per se unreasonable and an act of bad faith in negotiation," and that a request for "a clause waiving statutory rights to file a complaint with the Commission is per se

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[233] This should include information on whether the building already has a GPON and/or Ethernet connection, the specific route designed, labor hours, and associated tasks included in the quotation, and proposed installation location and description of any electronics included in the quotation.

[234] *See FNPRM* ¶ 313.

[235] *Id.* ¶ 316.

unreasonable."[236] Moreover, the confidentiality interests of the parties to a commercial agreement can be protected sufficiently by a provision requiring a party to seek confidential treatment, pursuant to 47 C.F.R. §§ 0.457 and 0.459, for any confidential data provided to the Commission.

X. CONCLUSION

The Commission should seize the opportunity before it to enact comprehensive broadband data service reform that advances competition and consumer benefits, and curbs market leaders' ability to charge excessive prices and stifle rivals. The record conclusively establishes that most business data service customers lack access to vigorous competition. Windstream urges the Commission to apply a competitive market test that measures this actual, not hypothetical competition, and recognizes that markets for business data services 100 Mbps and below are per se non-competitive. Moreover, the Commission should ensure that wholesale input rates are priced below comparable capacity retail services, that rate benchmarks represent the increased efficiency of packet-based technologies, and that the most vulnerable business data services customers are protected from rate increases. The Commission should not allow market leaders to undermine these reforms with backdoor rate increases. To that end, the Commission should confirm that DS1 and DS3 capacity unbundled obligations continue to apply during and beyond the IP transition; limit TDM special access shortfall penalties when customers are migrating to Ethernet; and prevent the imposition of inappropriate special construction charges.

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[236] *Implementation of Section 703(e) of the Telecommunications Act of 1996*, Report and Order, FCC 98-20, 13 FCC Rcd. 6777, 6790 ¶ 21 (1998). *See also Pole Attachment Order* ¶ 8 (declining to modify "sign and sue" rule).

Finally, the Commission should prohibit NDAs that prevent customers from disclosing business data services prices and terms to the Commission when subject to confidentiality protections.

Respectfully submitted,

John T. Nakahata
Henry Shi
Elizabeth B. Uzelac
HARRIS, WILTSHIRE & GRANNIS, LLP
1919 M Street, N.W., Eighth Floor
Washington, DC 20036
(202) 730-1320
jnakahata@hwglaw.com

Counsel to Windstream Services, LLC

Jennie B. Chandra
Malena F. Barzilai
WINDSTREAM SERVICES, LLC
1101 17th St., N.W., Suite 802
Washington, D.C. 20036
(202) 223-7664 (phone)
(330) 487-2740 (fax)

June 28, 2016

Attachment A

REDACTED - FOR PUBLIC INSPECTION

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

In the Matter of	)	
	)	
Business Data Services in an Internet Protocol Environment	)	WC Docket No. 16-143
	)	
	)	
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

DECLARATION OF DAVID SCHIRACK AND MIKE BAER

WINDSTREAM SERVICES, LLC
1101 17th St., N.W., Suite 802
Washington, D.C. 20036
(202) 223-7664 (phone)
(330) 487-2740 (fax)

June 28, 2016

DECLARATION OF DAVID SCHIRACK AND MIKE BAER

1. David Schirack: My business address is 4001 N. Rodney Parham Road, Little Rock, AR 72212. I am Vice President for Enterprise Finance at Windstream Services, LLC ("Windstream"). I have been employed with Windstream since 2006, and possess 14 years of experience in the telecommunications industry. Prior to assuming my current position, I held various positions in financial planning at Windstream. In my current role, I am responsible for financial planning, analysis, and reporting for Windstream's Enterprise Business Unit. As part of that portfolio, I oversee the financial analysis of the different cost components necessary to providing Windstream's enterprise services to retail customers, both where Windstream has its own last-mile customer access facilities, and where it must lease last-mile customer access to a location from another carrier. I am attesting to paragraphs 1, 3-9, 12, and 14-18.

2. Mike Baer: My business address is 16479 Dallas Parkway, Suite 700, Addison, TX 75001. I am currently the Director of Access Product Strategy. In my role I am currently responsible for access carrier and product evaluation and procurement supporting all of Windstream's business units. My organization identifies access carriers and products in any given geographic market and positions them within the company to attain the maximum benefit for our business units and customers. In addition to other general sales and quote generation support, my team oversees the Network-to-Network Interface ("NNI") inventory that includes deployment of new NNIs, assignment of access loop to those NNIs, and optimization and disconnection of underutilized NNI inventory. I am attesting to paragraphs 2, 10, 11, and 13.

I. CLEC Margins for Ethernet-Based Enterprise Business Services

3. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****, which leaves Windstream particularly vulnerable to efforts by its largest competitors, which are also its largest last-mile access providers, to increase last-mile charges in an effort to push up Windstream's own prices for its overall business data service solutions.

II. Sales and Marketing Costs

4. Windstream incurs sales and marketing costs in providing retail enterprise services. A significant part of Windstream's retail sales and marketing approach is working with third party sales agents. This is a common practice in the telecommunications industry for retail services directed at enterprise customers.

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

6. Third party sales agents absorb much of the sales and marketing costs that are needed to attract retail customers. Channel partners also may spend additional amounts on co-promotional and co-branding efforts to increase sales.

7. Sales agents and channel partners are typically compensated through a percentage of the total retail revenue generated by a customer over the term of the contract. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

8. Windstream incurs far less sales and marketing costs for wholesale customers as compared to retail enterprise customers. For wholesale operations, there are far fewer sales employees needed for the same amount of revenue, given wholesale arrangements generally are via agreements that cover large numbers of locations. This is in contrast to the need for sales employees to win retail enterprise sales business on an individual business location basis. Moreover, unlike for retail sales, a carrier providing wholesale service does not need to engage in expensive advertising to attract customers.

9. For these reasons, *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

III. Network Costs

10. The network connectivity costs Windstream incurs when providing retail Ethernet service to a customer location can be divided into two segments: "customer access cost" and "network access cost." For point-to-point retail enterprise services, there are both customer access and network access costs when transmitting traffic between customer locations.

11. Ethernet customer access addresses the segment of the network from the user-network interface point (i.e., the demarcation point at the customer's premise between the provider's network and the customer premise equipment) to the NNI where the traffic is handed off to Windstream's own fiber network. Based on Windstream's experience as a competitive carrier, there usually is at least one NNI per interconnecting carrier in each Local Access and Transport Area, with the specific NNI location subject to negotiation by providers.

12. Customer access costs paid to the large ILECs are by far the largest part of Windstream's costs of providing enterprise business data solutions, and *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL*****

13. Ethernet network access includes transport over Windstream's core network as well as long-haul, inter-city transport.

14. Windstream's CLEC revenues from retail enterprise customers must recover both customer and network access costs. *****BEGIN HIGHLY CONFIDENTIAL***** [redacted] *****END HIGHLY CONFIDENTIAL***** These

figures do not account for the additional cost incurred by Windstream when transmitting customers' traffic over its own network facilities.

15. When a competing ILEC offers Ethernet prices to its retail customers, the competing ILEC usually does not separately break out the IP backbone access and middle-mile transport costs that it incurs and that are functionally comparable to Windstream's network access costs. Thus, in those situations, the ILEC retail price against which Windstream is competing recovers costs for functions that Windstream itself performs when it is purchasing an ILEC last-mile input for service to an off-net retail customer.

III. Last-Mile Facilities Construction

16. Windstream's experience is that a single 100 Mbps circuit almost never generates the amount of revenue required to justify deployment of a new last-mile connection by its competitive carrier operations, even when Windstream has already deployed fiber feeder in the customer's vicinity.

17. The economic viability of deploying a fiber lateral is even lower for a location that requires only a single 50 Mbps circuit. Windstream would not deploy a fiber lateral in such a case, absent truly exceptional circumstances.

18. Moreover, even when revenues on their face may have the potential to justify a build, that does not mean that all other barriers to deploying a lateral can be surmounted. For example, Windstream would still need to have a nearby splice point at which it could access its fiber feeder as well as be able to secure building access and necessary construction permits within a commercially reasonable time and on commercially reasonable terms. These barriers further reduce the likelihood of Windstream's building a lateral to provide a single 100 Mbps or 50 Mbps circuit to a building.

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

Executed on: June 28, 2016

David Schirack

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

Executed on: June 27, 2016

Mike J. Baer