REDACTED - FOR PUBLIC INSPECTION

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

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

REPLY COMMENTS OF TDS METROCOM, LLC

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REPLY COMMENTS OF TDS METROCOM, LLC

TDS Metrocom, LLC ("TDS CLEC") submits the following reply comments in response to the Federal Communications Commission's ("Commission" or "FCC") Further Notice of Proposed Rulemaking[1] ("FNPRM") in the Special Access proceedings.

INTRODUCTION AND SUMMARY

As TDS CLEC showed in its opening Comments, and as the Comments of the large ILECs agree, special access is rapidly transitioning from TDM to Ethernet. The Commission must focus on the competitiveness of the market for Ethernet special access. The record shows

[1] *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 and Further Notice of Proposed Rulemaking, 27 FCC Rcd 16318 (2012) ("*Special Access FNPRM*").

that in that market, the large ILECs have been subjecting CLECs that purchase wholesale Ethernet special access to a price squeeze that prevents CLECs from acting as a competitive check on the large ILECs' prices for Ethernet special access. In addition to TDS CLEC, Windstream and XO have offered evidence that large ILECs have been selling Ethernet special access at prices that exceed their retail prices for the same service under the same terms and conditions. In Matthew Loch's attached declaration, he explains that a fiber lateral build to any customer located 100 to 1,000 feet from the nearest splice point on TDS CLEC's fiber network is not competitive at speeds ranging from 10 to 100 Mbps because TDS CLEC could not recover its required revenue and compete with lower RBOC retail rates. At the same time, Mr. Loch explains that RBOCs charge in the range of 15% -25% more for wholesale Ethernet service in buildings where there are no fiber-based competitors than where fiber-based competition to the building already exists. Similarly, he observes that in TDS CLEC markets where the RBOC does not yet have fiber extended to a building (off-net), the wholesale Ethernet rate charged to complete the fiber build is approximately 50% -55% more than what is charged for on-net building where a fiber-based competitor is present.

There is no cost-based justification for such discrimination. In fact, as the Commission and Section 252(c)(3) of the Act have recognized and as the state commissions have quantified in numerous proceedings, ILECs incur lower costs when selling service at wholesale than they do when selling at retail. The above-retail pricing of these offers of wholesale Ethernet service is unjust, unreasonable, and unreasonably discriminatory, in violation of Sections 201(b), 202(a), and 251(b)(1), and nothing in the Commission's grant of forbearance excuses any ILECs from compliance with these bedrock sections of the Act.

The Commission should require that the large ILECs provide wholesale Ethernet special access at rates that are lower than retail, reflecting their avoided costs, consistent with Section 252(c)(3) because reducing wholesale prices to the retail level would not cure the exclusionary effect of high wholesale prices. CLECs buying Ethernet special access at wholesale and reselling it at retail incur costs, such as network transport, sales and marketing, customer service, and billing and collection. A CLEC cannot pay a wholesale price equal to the ILEC's retail price, incur these additional costs, and compete with the ILEC's retail price offering. If the Commission elects to undertake a study to quantify the ILECs' avoided costs, which will inevitably involve some delay, it should establish an interim wholesale discount.

The Commission must reject the RBOCs' contention that because most census blocks contain facilities of a CLEC, the market for special access is subject to competition. There are several fundamental flaws in the RBOCs' analysis. First, the mere presence of CLEC fiber in a census block does not show that the CLEC can compete to provide special access to any or all of the customers in the census block. A CLEC cannot serve a customer without having a nearby splice point or access point and cannot add splice points or access points indiscriminately without imposing significant new costs and potential fiber integrity issues into the process. Furthermore, the expense of extending the fiber from the splice or access point to the customer's premises is, in many cases, prohibitive when compared with the expected revenue to be derived from the customer. For this reason, even in Madison, Wisconsin, where TDS CLEC has been operating for 19 years and has made very significant investments to serve thousands of customers, it has fiber splice points in only approximately 10% of the hundreds of census blocks where TDS CLEC fiber is located and fewer than 100 on-net customers.

The second fundamental flaw in the RBOCs' analysis is their failure to acknowledge the deficiencies of "best efforts" cable broadband, when compared with fiber. As TDS CLEC is well aware from the experience of its cable affiliates, coaxial cable produces a quality of service that is not satisfactory to most business customers, except for very small business customers (fewer than 10 employees) who can live with the lack of reliability and availability of best efforts cable service.

The third fundamental flaw in the RBOCs' analysis is their assumption that the presence of a single facilities-based competitor to the ILEC results in a competitive market. The Commission has regularly rejected the assertion that a duopoly results in a competitive market, and the Commission's approach is fully supported by the economic literature. Moreover, economic analysis of the Commission's Data Collection shows that ILEC prices are significantly lower in buildings where the ILEC faces more than one competitor than they are where the ILEC faces only one competitor. This analysis also shows that the effect on price in a building of a competitor having facilities "nearby" is much weaker than if the competitor has facilities in the building. This supports TDS CLEC's argument that the existence of competitive facilities in a census block does not show that the competitor is in a position to influence price.

The market for Ethernet special access is broken. The Commission should repair it by requiring RBOCs to (1) offer Ethernet at a wholesale rate below retail, reflecting the costs the RBOC avoids when it sells at wholesale and (2) adopting a disclosure requirement for RBOC retail Ethernet rates to help the Commission and competitors detect and deter unjust and unreasonable discrimination.

I. THE COMMISSION MUST PROHIBIT THE PRICE SQUEEZE RBOCS ARE IMPOSING ON WHOLESALE ETHERNET PURCHASES

In its opening Comments, TDS CLEC showed that the RBOCs were offering Ethernet service to wholesale customers such as TDS CLEC at a price higher than they sold the same service at retail, even though they avoided some significant costs when selling at wholesale.[2] TDS CLEC also showed that this was resulting in a price squeeze, preventing TDS CLEC from competing with the RBOCs for the sale of Ethernet service to end users.[3] TDS CLEC suggested that the Commission develop a proxy for costs avoided when Ethernet is sold at wholesale that it could use to determine whether wholesale Ethernet rates were just and reasonable and non-discriminatory, when compared with retail Ethernet rates.[4] As discussed herein, other Commenters are in substantial agreement.

A. The Record Shows that RBOCs are Subjecting Wholesale Purchasers of Ethernet to a Price Squeeze

The comments show that TDS CLEC is not the only CLEC that has been subjected to a price squeeze, in which large ILECs charge wholesale customers significantly more for Ethernet than they charge retail customers for the same service.[5] A Declaration submitted by a panel of Windstream employees notes that Windstream:

> is seeing some large ILECs set retail Ethernet special access offers that are below wholesale rates for equivalent capacities with the

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[2] Comments of TDS Metrocom, LLC at 23-30 (filed Jan. 27, 2016) ("TDS CLEC Comments").
[3] *Id.* at 24-27.
[4] *Id.* at 30-31.
[5] While the concern of TDS CLEC is mostly with regard to Ethernet, as shown by the Declaration of Jonathan B. Baker, (submitted on behalf of Level 3 Communications, LLC, Windstream Services, LLC and XO Communications, LLC at n. 32 (filed Jan. 28, 2016)), **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL].** ("Baker Declaration").

> same term commitments. ***BEGIN CONFIDENTIAL*** [redacted] ***END CONFIDENTIAL*** which is below its wholesale Guidebook rate for an Ethernet at the same capacity level and term ($1,225) as well as its DS3 three-year rate ($1,232.50). This is consistent with CostQuest's comparison of Telogical-surveyed average retail Ethernet prices to average AT&T and CenturyLink wholesale Ethernet Guidebook rates, which found that surveyed retail Ethernet prices were substantially lower than AT&T and CenturyLink wholesale Guidebook rates.[6]

Windstream also notes that at least some large ILECs charge a wholesale carrier customer much more than a comparable retail customer, "even when the carrier customer makes significant volume commitments that the retail customer does not," and provides a Highly Confidential example.[7] Further, Windstream notes that business customers purchasing Ethernet services are highly price-sensitive, precluding a CLEC from increasing its prices to offset the margin squeeze.[8]

XO also provides evidence that it has been subjected to a price squeeze in which the RBOC sells Ethernet at retail at a price that is lower than the RBOC's wholesale price for the same service. The Declaration of James A. Anderson of XO shows that in St. Louis, for example, XO's retail price for 10 Mbps Ethernet service, using XO's standard mark-up of **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]** over its

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[6] Declaration of Dan Deem, Douglas Derstine, Mike Kozlowski, Arthur Nichols, Joe Scattareggia and Drew Smith, ¶ 92 (filed Jan. 28, 2016) ("Windstream Declaration"); *see* Comments of Windstream Services, LLC at 15 (filed Jan. 28, 2016) ("Windstream Comments").
[7] Windstream Comments at 51.
[8] Windstream Comments at 55. *See* Windstream Declaration, ¶ 93 ("Wholesale prices that exceed retail prices for equivalent capacities preclude competition in the retail market because it is not feasible for Windstream and other CLECs to recover the higher wholesale lease expense by setting their CLEC retail rates far above those of the ILECs.").

Type II facility costs is **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]** higher than AT&T's retail rate of $665 and presents similar data for 100 Mbps Ethernet.[9] This conclusively shows that AT&T is selling Ethernet to wholesale customers in St. Louis above its retail price. Mr. Anderson's Declaration also shows that the same is true in Memphis.[10] XO concludes that the magnitude of the price squeeze to which it is subjected is too great for XO to capture business through the use of Type II facilities based on service quality and customer service, because "larger customers are increasingly focused on price."[11]

Similarly, Level 3 shows that RBOC wholesale pricing imposes a price squeeze on wholesale customers. Level 3 offers the declaration of Chris McReynolds, who states that when Level 3 must purchase Ethernet at wholesale from an ILEC, the ILEC often charges Level 3 the same or similar price as it sells at retail and therefore:

> Level 3 often cannot set its rates below the incumbent LEC's retail price and still make a profit. This often causes Level 3 to lose business to the incumbents. For example, on August 11, 2015, Level 3 ***BEGIN HIGHLY CONFIDENTIAL*** [redacted] *** END HIGHLY CONFIDENTIAL***[12]

TDS CLEC's experience in purchasing wholesale Ethernet from the RBOCs is consistent with that of Windstream, XO and Level 3. As Mr. Loch explained in his second declaration, the

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[9] Declaration of James A. Anderson ("Anderson Declaration"), ¶ 22, attached to Comments of XO Communications, LLC (filed Jan. 27, 2016) ("XO Comments").
[10] Anderson Declaration, ¶ 23.
[11] XO Comments at 43; *see* Anderson Declaration, ¶ 24.
[12] Comments of Birch, BT Americas, EarthLink and Level 3 ("Birch *et al* Comments"), Appendix A (Declaration of Chris McReynolds), ¶ 10 (filed Jan. 27, 2016).

RBOC wholesale rates available to TDS CLEC are typically higher than the RBOC retail rates.[13] Mr. Loch also explained that based on the underlying wholesale input costs TDS CLEC must pay the RBOCs, TDS CLEC's necessary average retail rate ranges from 235% of the RBOC average retail Ethernet rate at 10 Mbps to 117% of the RBOC average retail Ethernet rate at 100 Mbps.[14]

Mr. Loch's Third Declaration explains that RBOCs' wholesale Ethernet pricing is even more skewed in the absence of a fiber-based competitor serving the same building. Mr. Loch explains that the RBOC charges in the range of 15% -25% more for wholesale Ethernet service in buildings where there are no fiber-based competitors than where fiber-based competition to the building already exists.[15] Similarly, he observes that in TDS CLEC markets where the RBOC does not yet have fiber extended to a building (off-net), the wholesale Ethernet rate charged to complete the fiber build is approximately 50% -55% more than what is charged for an on-net building where a fiber-based competitor is present.[16] Adding insult to injury, Mr. Loch explains that TDS CLEC has paid the higher off-net rates to purchase wholesale Ethernet and later been told that additional service to the same building is still priced at the higher, off-net rate notwithstanding the fact that TDS CLEC is currently utilizing the RBOC's Ethernet service at the same building for an existing customer.[17]

Like Windstream, XO, and Level 3, TDS CLEC has found that because of customer price sensitivity, it cannot purchase RBOC Ethernet service at wholesale and sell it at a retail price that will enable TDS CLEC to maintain a profit in the face of the RBOC-imposed price squeeze.

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[13] Second Declaration of Matthew J. Loch ¶ 19, attached to TDS CLEC Comments (filed Jan. 27, 2016) ("Loch Second Declaration").
[14] *Id.*, ¶¶ 20-22.
[15] Third Declaration of Matthew J. Loch, ¶ 15, attached hereto as Attachment A ("Third Loch Declaration").
[16] *Id.*
[17] *Id.*, ¶¶ 16-17.

B. The RBOCs' Price Squeeze on Ethernet Violates the Communications Act

TDS CLEC agrees with Windstream that an RBOC's practice of charging CLECs more than it charges retail customers for the same Ethernet service under the same terms and conditions is an unjust, unreasonable and unreasonably discriminatory practice that violates Sections 251(b)(1), 201(b) and 202(a).[18] Nothing in the Commission's grant of forbearance exempts the RBOCs from complying with these bedrock provisions of the Act. In fact, RBOCs only requested forbearance from dominant carrier requirements of Title II[19] and the Commission expressly excluded Sections 201 and 202 from its grant of forbearance.[20] Section 251(b)(1) was plainly not within the scope of the forbearance request or grant because it applies on its face to "all" local exchange carriers, not merely those that are "dominant."[21] The Commission's order in effect classifying the RBOCs as non-dominant did not and could not have excused them from the requirements of a statute that applies to "all" carriers.

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[18] *See* Windstream Comments at 60-68; *see also* TDS CLEC Comments at 29 (citing *Technology Transitions Order*, 30 FCC Rcd at 9466, ¶ 167); Comments of Sprint Corporation at 85-86 (Ethernet special access should be subject to the same regulatory treatment and remedies as TDM-based special access).

[19] *See, e.g.*, *Petition of AT&T for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Its Broadband Services*, WC Docket No. 06-125, Memorandum Opinion and Order, 22 FCC Rcd. 18705, ¶¶ 13, 15, 30 (2007) ("*AT&T Forbearance Order*").

[20] *See, e.g.*, *AT&T Forbearance Order*, ¶ 36.

[21] Birch et al. Comments states at 59 that "the major incumbent LECs are now free from tariffing, pricing, and other requirements for the Ethernet-based dedicated services for which they obtained forbearance." While we do not interpret that as a concession that the pricing requirements in Sections 201 and 202 are inapplicable to Ethernet service, as shown in the text above, any such interpretation would be flatly inconsistent with the forbearance orders themselves.

C. The Commission Should Require RBOCs to Pass Cost Savings From Wholesaling on to Wholesale Customers

As discussed in Section I.B., above, it violates the Communications Act for RBOCs to charge wholesale customers more for Ethernet service than they charge retail customers. Beyond that, as Windstream points out, ILECs are required by Section 251(c)(4) to offer a wholesale discount reflecting the costs that they avoid when selling at retail.[22] As TDS CLEC showed in its opening Comments, the avoided costs for TDM POTS services have been found by commissions in the states in which TDS CLEC operates to range between 16.62% and 25%.[23] Moreover, Ethernet service is typically sold at wholesale via contracts that are subject to longer term and volume commitments than retail Ethernet service.[24] These longer commitments reduce churn and uncertainty, thereby reducing the ILECs' costs, and should be factored into the avoided cost discount.[25]

D. The Commission Should Adopt a Rate Cap for RBOC Wholesale Ethernet Service

TDS CLEC's opening comments rebutted the RBOC argument that a detailed Section 205 rate prescription is required before the FCC can set rates for Ethernet services.[26] TDS CLEC pointed to avoided cost discounts included in its Section 251 and 252 interconnection agreements as a source of an approximate avoided cost discount.[27] TDS CLEC agrees with Windstream that Sections 251 and 252 impose resale pricing obligations on RBOCs' Ethernet rates that apply in addition to Sections 201 and 202.[28] As Windstream argues, "[t]he 1996 Act recognizes that an

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[22] Windstream Comments at 68-73.
[23] TDS CLEC Comments at 30.
[24] *See* Windstream Comments at 73-75.
[25] *Id.*
[26] TDS CLEC Comments at 11-12.
[27] *Id.* at 30.
[28] Windstream Comments at 60-63, 69-73.

ILEC avoids substantial costs when selling telecommunications services on a wholesale basis, and these savings should flow through to carrier customers."[29] As Dr. Baker explains, "wholesale prices can be set to have exclusionary effects whether or not they exceed the retail price."[30]

TDS CLEC agrees with parties that suggest the FCC should adopt a rule capping wholesale Ethernet rates at an interim benchmark that reflects an avoided cost discount below retail rates and/or presume that wholesale Ethernet rates that do not reflect a substantial avoided cost discount are unjust and unreasonable.[31] The interim benchmark could be the TDM-derived benchmark XO suggested,[32] the Section 252 resale discount adopted by each state commission, or some other reasonable and non-discriminatory rate that recognizes costs avoided when selling Ethernet to wholesale customers.

The Commission's adoption of uniform pricing rules governing interstate and intrastate service under another subsection of 251 is instructive here. In adopting bill-and-keep in 2012, the FCC explained that it was exercising its Section 201 "rulemaking authority to define the types of traffic that will be subject to section 251(b)(5)'s reciprocal compensation framework and to adopt a default compensation mechanism that will apply to such traffic in the absence of an agreement between the carriers involved."[33] Among other things, the FCC brought interstate access charges under the Section 251(b)(5) umbrella and applied Section 251 and 252 pricing principles to set declining rates for end office interstate access service to reach the end point of

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[29] *Id.* at 69.
[30] Baker Declaration, n.32.
[31] *See* XO Comments at 55-56, Windstream Comments at 75-76.
[32] XO Comments at 57 ("For instance, if the DSn wholesale rates are 35% percent below top of rate card retail rates, wholesale Ethernet rates should reflect a similar discount on a temporary basis.").
[33] *Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17915 ¶ 760 (2011) *("CAF Order")*.

bill-and-keep.[34] The FCC adopted a "coordinated transition involving both intrastate and interstate traffic" to "align principles of cost causation and provide appropriate pricing signals to end users" as well as to "ensure that there is no disruption in the transition to more efficient forms of all IP networks."[35]

Wholesale Ethernet services, like intercarrier compensation, are having an impact on the industry and market transition to IP-based services. As TDS CLEC and numerous other parties have shown, the key principle of wholesale non-discriminatory access must be maintained throughout the IP transition to ensure that customers experience the benefits of competition. The Commission therefore should follow the roadmap from its 2012 Order to coordinate this transition, send accurate pricing signals, and ensure that customers are not forced to choose between competitive service providers that have to price Ethernet services well above the RBOC's retail rate (given discriminatory wholesale Ethernet costs) and the RBOC's lower-priced retail Ethernet services.

II. THE COMMISSION SHOULD REJECT THE RBOCS' CONTENTION THAT THE PRESENCE OF ONE FACILITIES-BASED COMPETITOR IN A CENSUS BLOCK IS SUFFICIENT TO ASSURE THAT ALL CUSTOMERS IN THE CENSUS BLOCK HAVE THE BENEFITS OF A COMPETITIVE MARKETPLACE

The principal argument made by the RBOCs is that the FCC's Data Collection shows that in most census blocks, a CLEC has fiber, and therefore the RBOCs claim that all the customers in the census block obtain the benefit of competition. They rely on a White Paper prepared by Compass Lexecon that identifies the percentage of census blocks with demand for special access that have a competitor with facilities in the census block, without regard to (1) whether there is

[34] *Id.*, at 17919 ¶ 769.
[35] *Id.*, at 17930-31 ¶¶ 792-93.

merely one such competitor or (2) whether the facilities can economically be extended to serve any particular customer within the census block.[36]

There are two fundamental reasons why this argument is misguided and should be rejected. First, the mere presence of competitive facilities in a census block does not establish that the carrier that owns the facilities can provide effective competition to the RBOC for the business of all (or even any) of the customers located within the census block.[37] Second, as the Commission and the economic literature has recognized, the mere presence of one competitor does not provide customers with the benefits of competition.

A. The Presence of a Competitor's Fiber in a Census Block Does Not Show that the Competitor Can Compete to Provide Ethernet to the Customers in the Census Block

As Ms. Gately observes, the FCC's analysis must recognize the distinction between fiber used for transport and fiber used for connections to end users.[38] The determining factor of whether a carrier can profitably extend its network to serve a potential customer is the cost of the build from an existing splice point or access point on a fiber network. Mr. Loch provides an example to put the issue in context:

> A SMB on Main Street would like business from customers traveling on the highway that the state built to bypass the town. The four-lane highway runs right behind the SMB on

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[36] Comments of AT&T at 10-12, 18-20, 25-26 (filed Jan. 28, 2016) ("AT&T Comments"); Comments of Verizon at 24-28 (filed Jan. 28, 2016) ("Verizon Comments"); Comments of CenturyLink at 9-10 (filed Jan. 28, 2016) ("CenturyLink Comments"); *see generally* Compass Lexecon Competitive Analysis of the FCC's Special Access Data Collection White Paper, (filed Jan. 28, 2016) ("Compass Lexecon White Paper").

[37] Even worse, Verizon lards the record with data on the percentage of zip codes that contain the facilities of one or more competitors. *See* Verizon Comments at 25-28, 36-37, 45-46. The discussion in Section II.A. showing that CLECs cannot economically serve large portions of census blocks simply because they have facilities in the census block applies *a fortiori* to zip codes, which tend to cover more larger areas and therefore would require a CLEC to extend its facilities longer distances.

[38] Declaration of William P. Zarakas and Susan M. Gately, ¶ 12 attached to Sprint Comments ("Zarakas and Gately Declaration").

> Main Street and the highway exits are two miles north and two miles south of the SMB. Although an aerial view would show the SMB on the four-lane highway in the census block, in reality the SMB is severely disadvantaged in terms of customer traffic because potential customers travel at high speeds behind it and have to exit two miles before or after the SMB to patronize the business. Obviously, building a new exit ramp next to the customer so they could have more business would be nonsensical and extremely inefficient from a cost/benefit perspective.[39]

As TDS's Chief Technology Officer explained in his Declaration, a typical CLEC fiber build contains splice points spaced 10,000 feet apart and access points about 1,200 feet apart.[40] If an extension to a customer is made from an access point, rather than a splice point, there are added costs associated with opening the access point, and the access must be performed by a significantly skilled fiber splicer.[41] This process takes approximately eight hours, and is typically performed overnight. To add a new splice point that is closer to the customer would take the entire fiber sheath out of service for several hours, potentially disrupting many customers' service for an extended period.[42]

Thus, the mere fact that CLEC fiber is running through a census block does not mean that the CLEC can economically extend fiber to a customer from a point on the fiber that is within the census block. TDS CLEC's fiber deployment in Madison, Wisconsin is consistent with Dr. Besen and Dr. Mitchell's conclusion that only a small percentage "of census blocks in which the FCC reports that at least one CLEC has fiber does any CLEC actually provide service to a purchaser."[43] Mr. Loch explains that although TDS CLEC has fiber in hundreds of Madison census blocks, it only has splice points in approximately 10% of the census blocks that its fiber ring runs through. This shows that the presence of TDS CLEC fiber in a census block does not

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[39] Third Loch Declaration, ¶ 5.
[40] Declaration of Kenneth H. Paker, ¶ 3, attached hereto as Attachment B ("Paker Declaration").
[41] Paker Declaration, ¶ 4.
[42] Paker Declaration, ¶ 5.
[43] Declaration of Stanley M. Besen and Bridger M. Mitchell, ¶ 30 attached to Sprint Comments ("Besen and Mitchell Declaration").

establish TDS CLEC's ability to extend a lateral to any business customer in that block on an economical basis.[44]

Mr. Loch also compares TDS CLEC's thousands of customers served in the Madison market to its fewer than 100 on-net customers in the Madison market.[45] He uses TDS CLEC's pricing estimate tool to explain that TDS CLEC cannot build a fiber lateral ranging from 100 to 1,000 feet from a splice point on its fiber network and remain competitive in today's market given the RBOC retail prices that TDS CLEC competes with in Ethernet bandwidth ranges between 10 and 100 Mbps.[46]

The Commission cannot presume that the existence of fiber in a census block is evidence of a competitor's capability to extend its fiber network profitably to serve even one, let alone all, of the businesses in that census block.

B. Cable Companies Face Similar Fiber Build Costs and Disadvantages

TDS has two cable subsidiaries, TDS Broadband LLC ("TDS Cable") and Bend Cable Communications LLC ("Bend"). When TDS purchased TDS Cable and Bend within the last two years, their cable plant did not pass many commercial establishments. Because of costs of extending the cable network, TDS does not intend to extend their facilities to commercial establishments unless projected revenues are likely to cover the cost of construction within a reasonable period.[47]

Mr. Loch explains that like TDS CLEC, TDS Cable does not have a network reach that enables it to connect most businesses in its markets directly to the TDS Cable network.[48] Mr.

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[44] Third Loch Declaration, ¶¶ 7-9.
[45] *Id.*, ¶¶ 7, 14.
[46] *Id.*, ¶¶ 11-13.
[47] Paker Declaration, ¶ 6.
[48] Third Loch Declaration, ¶ 22.

Loch also explains why the average cost of extending a lateral from TDS Cable's hybrid fiber coaxial network to a new business customer is not economically justified given the average monthly recurring revenue received from TDS Cable's business customers.[49]

C. There are Significant Differences Between the Services Provided/Customers Served by TDS Cable and TDS CLEC

There are many respects in which the broadband services provided by cable companies are less desirable than fiber services for business customers, particularly customers that want more than a few Mbps of bandwidth. First, because DOCSIS is a shared system, it is a challenge to offer dedicated service.[50] Second, it is more difficult to achieve high upstream speeds on a DOCSIS facility. TDS Cable's and Bend's networks only offer upstream speeds to 25 Mbps over DOCSIS 3.0 facilities.[51] The sharing of facilities makes this 100 Mbps down/25 Mbps up a "best effort" service.[52] While it is possible to dedicate all of the bandwidth in a service group to a single customer, that would require allocation of precious RF spectrum and is not economically viable.[53] As TDS's CTO stated in his declaration, "A business customer that desires committed bandwidth rates and service level guarantees is not likely to be satisfied with best efforts 100 Mpbs/25 Mbps service."[54] TDS's CTO further concluded that subject to "the drawbacks of best efforts service, DOCSIS 3.0 can be competitive against fiber to the node ("FTTN") if a customer does not require service level guarantees, but not competitive against FTTP."[55]

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[49] *Id.*, ¶ 23.
[50] Paker Declaration, ¶ 9.
[51] Paker Declaration, ¶ 10.
[52] Paker Declaration, ¶ 10.
[53] Paker Declaration, ¶ 10.
[54] Paker Declaration, ¶ 10.
[55] Paker Declaration, ¶ 11.

TDS anticipates that broad availability of DOCSIS 3.1 will begin in late 2016 or early 2017.[56] The DOCSIS 3.1 specification theoretically allows for a dramatic increase in upstream speeds, but in practice requires significant re-work of the outside plant. TDS believes that this approach will rarely be used to serve business customers since it is more likely to build out fiber to these businesses where construction work is cost-justified.[57] However, because cable networks were built for residential, rather than business, customers, TDS expects that most network upgrades will be to DOCSIS 3.1, rather than to fiber.[58]

Another drawback of cable is that Hybrid Fiber Coaxial ("HFC") networks used by TDS's cable subsidiaries and other cable providers are closed radio systems that require continuous fine tuning to remain in peak working condition.[59] Because interference may be routinely injected into HFC systems, analysis and debugging may be required to correct.[60] Therefore, cable companies typically perform systematic diagnostic reviews of their entire coaxial network twice a year.[61] Sometimes, the HFC plant performs differently from day to day (or even during a specific time of day).[62] This constant fine tuning of the coaxial plant is not required in a fiber system. Fiber systems will perform on a relatively consistent basis unless the fiber is cut.[63]

Based on Mr. Loch's experience as the head of sales for both TDS CLEC's and TDS's cable business broadband sales, he explains that the types of business customers that choose cable broadband over dedicated, high speed broadband typically are very small (fewer than 10

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[56] Paker Declaration, ¶ 13.
[57] Paker Declaration, ¶¶ 12-13.
[58] Paker Declaration, ¶ 14.
[59] Paker Declaration, ¶ 7.
[60] Paker Declaration, ¶ 7.
[61] Paker Declaration, ¶ 7.
[62] Paker Declaration, ¶ 7.
[63] Paker Declaration, ¶ 7.

employees) and do not operate businesses that depend on cloud-based back office services requiring symmetrical download and upload speeds with service level guarantees.[64] While these types of customers may be willing to try best efforts broadband, Mr. Loch explains that cable broadband has churn rate two times greater than TDS CLEC's churn rate, which he believes shows that business customers are generally not satisfied with the lack of service quality and availability of cable shared, best efforts broadband compared to the service quality and availability of dedicated, carrier class broadband from LECs.[65]

D. The Presence of a Single Facilities-Based Competitor Does Not Guarantee Competition

Even if the Commission were to credit the RBOCs' assertion that a single competitor owning fiber in a census block can compete to provide Ethernet to all businesses within the census block, that would not mean that customers in such a census block receive the full benefits of competition. This is shown by prior Commission observations regarding duopoly and oligopoly markets, the economic literature, and empirical analyses of the data collection.

1. Prior Commission Decisions show that more than one entrant is needed to create a competitive market

Consistent with the pro-competitive vision of the 1996 Act, the Commission has consistently favored competition from *multiple* providers, finding that in markets with choices among multiple providers, consumers have access to better and more innovative services and lower prices. The Commission recognizes that "firms operating in a market with two or a few firms… are likely to recognize their mutual interdependence and…in many cases may engage in strategic behavior, resulting in prices above competitive levels."[66] As former Chairman Powell

[64] Third Loch Declaration, ¶ 20.
[65] *Id.*, ¶ 22.
[66] *Qwest Phoenix Forbearance Order*, 25 FCC Rcd at 8637 ¶ 30.

explained, a duopoly … decrease[s] incentives to reduce prices, increase[s] the risk of collusion, and inevitably result[s] in less innovation and fewer benefits to consumers. That is the antithesis of what the public interest demands."[67] Examples from previous Commission experience, including the mobile wireless industry,[68] the multichannel video market,[69] and the then nascent instant messaging industry,[70] support this analysis.

Further, in recent history the Commission has had serious concerns regarding the impact on competition where consolidation would lead to a reduction from four market participants to three. The FCC staff recommended that the FCC designate for hearing the proposed acquisition of T-Mobile by AT&T because the combination of two of the four national retail wireless providers, leaving just three national participants in the market, would give the combined entity "a unilateral incentive to raise price (or, to similar effect, to reduce service quality or otherwise exercise market power)."[71]

The staff further determined that increased concentration in the market resulting from the shift from four to three participants would increase the likelihood and effectiveness of

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[67] *Application of Echostar Communications Corp.*, 17 FCC Rcd 20559, 20684, Separate Statement of Chairman Michael K. Powell.

[68] *Qwest Phoenix Forbearance Order*, at 8637-38 ¶ 31 (citing reduction in prices for mobile wireless service after additional competitors were introduced to duopoly cellular market and similar effects in other markets).

[69] *See Echostar*, 17 FCC Rcd at 20604, ¶ 99 and 20605, ¶ 102 (finding that merger resulting in duopoly carries a "strong presumption of significant anticompetitive effects."); Statistical Report on Average Rates for Basic Service, Cable Programming Service, and Equipment, 21 FCC Rcd 15087, 15093, Table 1 (2006) (showing that video markets with only two competitors saw higher prices than those with more than two competitors).

[70] *Applications of Time Warner Inc. and America Online, Inc.*, 16 FCC Rcd 6547, 6617 ¶ 163 (2001) (emphasis added) (imposing conditions on AOL's instant messenger service because, together with a competitor's rival service, there "would be merely a duopoly, not the healthy competition that exists today in electronic mail.").

[71] *In the Matter of Applications of ATT and Deutsche Telecom AG for Consent to Assign or Transfer Control of License and Authorizations*, Staff Analysis and Findings, ¶ 48, WT Docket No. 11-65 (2011) ("Staff Analysis").

coordinated anticompetitive effects among the remaining market participants.[72] Coordinated effects occur when competitors, having recognized their mutual interdependence, behave in ways "that are profitable for each of them only as a result of the accommodating reactions of the others."[73] The staff found that coordinated effects "make it likely that the remaining three nationwide providers would be able to reach a consensus on the terms of coordination (by identifying a mutually agreeable coordinated price), deter cheating on that consensus (by undercutting the coordinated price to steal high margin business from its rivals), and prevent new competition in this market."[74] Such concerns would obviously be heightened in markets with only two competitors.

Even the authority cited by AT&T, the Commission's 1999 *Pricing Flexibility Order*, does not support the RBOCs' contention that a single CLEC in a market provides adequate competition. AT&T asserts that once "a" facilities-based competitor has "entered the market and cannot be driven out, rules to prevent exclusionary pricing behavior are no longer necessary," purportedly quoting ¶ 80 of the FCC's *Pricing Flexibility Order*.[75] AT&T's use of the singular "a" facilities-based competitor misrepresents ¶ 80 the Commission's *Pricing Flexibility Order,* which states that "once *multiple* rivals have entered the market and cannot be driven out, rules to prevent exclusionary behavior are no longer necessary."[76] Thus, even in granting the pricing flexibility that led to this proceeding, the Commission recognized that regulation of the ILEC could not be dispensed with based on the presence of a single rival; rather, dispensing with regulation requires "multiple" rivals that "cannot be driven out."

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[72] *Id.*, ¶ 71.
[73] *EchoStar,* 17 FCC Rcd at 20619, ¶ 152.
[74] Staff Analysis, ¶ 76.
[75] AT&T Comments at 6, quoting *Pricing Flexibility Order*, ¶ 80.
[76] *Access Charge Reform*, Fifth Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd. 14221level, 14264 at ¶80 emphasis added (1999) (*"Pricing Flexibility Order"*).

The RBOCs' economists from Compass Lexecon, even as they focus solely on whether *one* rival is present in a census block, agree with the concept that it requires "multiple" rivals, not one rival, to ensure a competitive outcome. They state that "when *multiple* carriers make abundant investments in sunk network facilities, competitive outcomes can be assured."[77]

2. The economic literature recognizes that more than one entrant is needed to create a competitive market

A declaration filed by CLEC economist Dr. Jonathan Baker and a joint declaration of Dr. Stanley Besen and Dr. Bridger Mitchell provide abundant support to demonstrate the invalidity of the RBOCs' assumption that a duopoly generates adequate competition. Dr. Baker asserts that "markets with two providers" are "unlikely to perform competitively."[78] He notes that "the economics literature recognizes that markets with more than one significant firm do not necessarily perform competitively, and that firms will likely exercise market power in markets with few participants. That is the prediction of most common oligopoly models, and the common finding of within-industry studies is that greater concentration leads to higher prices."[79]

Likewise, Dr. Besen and Dr. Mitchell assert that "the economic literature generally supports a finding that many competitors are required"[80] to discipline pricing effectively, discussing four different empirical studies performed by economists in a variety of industries.[81] On the basis of these empirical analyses, Besen and Mitchell conclude that "it is likely that four – and certainly more than two – providers are needed to give a competitive outcome in the special access markets under consideration in this proceeding."[82]

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[77] Compass Lexecon White Paper at 8 (emphasis added).
[78] Baker Declaration, ¶ 48.
[79] *Id.*
[80] Besen and Mitchell Declaration, ¶ 45.
[81] Besen and Mitchell Declaration, ¶¶ 43-46.
[82] Besen and Mitchell Declaration, ¶ 47.

3. Empirical analysis of the Data Collection shows little competitive effect

Dr. Baker and Drs. Besen and Mitchell perform separate empirical analyses of the Data Collection, drawing these conclusions: (1) more than one competitor to the ILEC is needed to create a competitive market; (2) the competitive effect of "nearby" competitors is significantly less than in-building competitors; and (3) there are very few places in which an ILEC is faced with competition from more than one competitor.

Dr. Baker performs a multiple regression analysis of the data collection and concludes that it "shows that ILEC prices to end users **[BEGIN HIGHLY CONFIDENTIAL]** [redacted]." **[END HIGHLY CONFIDENTIAL]**[83] Dr. Baker also demonstrates empirically **[BEGIN HIGHLY CONFIDENTIAL]** [redacted]. **[END HIGHLY CONFIDENTIAL]**[84]

Dr. Baker's observation that "markets with two providers" are "unlikely to perform competitively"[85] is extraordinarily important in light of his analysis of the Data Collection showing that **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]** of all buildings have only one or two in-building providers.[86]

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[83] Baker Declaration, ¶ 53. *See id.* at ¶ 8 **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]**

[84] *Id.*, ¶ 57.

[85] *Id.*, ¶ 48.

[86] *Id.*, ¶ 44 and Table 1. *See also* Besen and Mitchell Declaration, ¶ 25, reaching a similar conclusion. Similarly, the Zarakas and Gately Declaration in paragraph 28 observes that in only **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]** of the roughly **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY**

Dr. Besen and Dr. Mitchell focus on concentration ratios based on market shares, measuring concentration using the widely used Herfindal-Hirschman Index ("HHI"). They find that:

> in all census blocks where special access service is provided by an ILEC, the Herfindahl-Hirschman Index ("HHI") is 10,000 in *** **BEGIN HIGHLY CONFIDENTIAL** *** [redacted] *** **END HIGHLY CONFIDENTIAL** *** of census blocks; between 7,500 and 10,000 in *** **BEGIN HIGHLY CONFIDENTIAL** *** [redacted] *** **END HIGHLY CONFIDENTIAL** ***; between 5,000 and 7,500 in *** **BEGIN HIGHLY CONFIDENTIAL** *** [redacted] *** **END HIGHLY CONFIDENTIAL** ***; and between 2,500 and 5,000 in *** **BEGIN HIGHLY CONFIDENTIAL** *** [redacted] *** **END HIGHLY CONFIDENTIAL** ***. Thus, the HHI exceeds 5,000 in *** **BEGIN HIGHLY CONFIDENTIAL** *** [redacted] *** **END HIGHLY CONFIDENTIAL** *** of census blocks.[87]

To place these ratios in context, Drs. Besen and Mitchell observe that the Merger Guidelines promulgated by the Antitrust Division of the U.S. Department of Justice and the Federal Trade Commission "characterize a market with an HHI above 2500 as "Highly Concentrated," and the HHIs in *** **BEGIN HIGHLY CONFIDENTIAL** *** [redacted] *** **END HIGHLY CONFIDENTIAL** *** census blocks exceed this threshold, in most by a very substantial amount."[88]

Drs. Besen and Mitchell also examine the market shares of each of the major ILECs within each ILEC's entire region, measured by revenues. They find that these market shares range from *** **BEGIN HIGHLY CONFIDENTIAL** *** [redacted] *** **END HIGHLY**

CONFIDENTIAL] census blocks in which a CLEC has reported deploying fiber facilities are there three or more CLECs providing special access over their own facilities.

[87] Besen and Mitchell Declaration, ¶ 37.

[88] *Id.*

CONFIDENTIAL ***.[89] Moreover, they show that the ILEC's market share decreases as bandwidth increases.[90]

Drs. Besen and Mitchell conclude that these services are:

> supplied in markets that are highly concentrated and the ILECs generally face little or no competition in their provision of special access services. In particular, the data that we have analyzed support the following conclusions. First, in many areas, there are no providers with facilities that can provide special access services that compete with those of the ILEC. Second, even in areas where CLEC providers have facilities, many have failed to acquire any special access purchasers. Third, CLECs with purchasers of special access services tend to be few in number in many areas, such that the competition faced by the ILECs is often not as intense as they claim. Fourth, the ILECs still continue to capture a very large share of all special access service volumes in the great majority of census blocks, which is a further indication of the limited competition that they often face.[91]

Dr. Baker's empirical conclusion that **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]**[92] provides empirical support for the assertions in the Declaration of Mr. Loch that even though TDS CLEC may have facilities in a census block, it is generally unable to build fiber laterals to serve customers in the census block profitably.[93]

Both Dr. Baker's empirical conclusion and Mr. Loch's conclusion based on his business experience undermine the RBOCs' analysis that simply assumes[94] that a CLEC having fiber in a census block provides effective competition for every building in the census block, without

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[89] *Id.*, ¶¶ 39-40
[90] *Id.*, ¶ 41.
[91] Besen and Mitchell Declaration, ¶ 42.
[92] Baker Declaration, ¶ 53.
[93] Third Loch Declaration, ¶¶ 11-13.
[94] *E.g.* AT&T Comments at 12; CenturyLink Comments at 2-3.

regard to (1) whether the CLEC fiber is actually connected to a given building; (2) the distance from the nearest splice point on the CLEC fiber to the building or (3) any impediments to the CLEC running the fiber from the nearest splice point to the customer's premises within the building.

Moreover, Dr. Baker finds that the cumulative effect on ILEC price of 3 in-building competitive carriers was **[BEGIN HIGHLY CONFIDENTIAL]** [redacted]. **[END HIGHLY CONFIDENTIAL]**[95] This provides further empirical confirmation that the mere presence of CLEC fiber in a census block is not likely to have a significant impact on the ILEC's retail price in a building unless the CLEC is actually present in the customer's building. Nevertheless, even if the Commission were to treat any CLEC with facilities in a census block as providing competition throughout the census block, as Drs. Besen and Mitchell show, only **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]** [redacted][96] and less than **[BEGIN HIGHLY CONFIDENTIAL]** [redacted] **[END HIGHLY CONFIDENTIAL]** of all census blocks have an ILEC and two or more CLECs with facilities.[97]

4. TDS CLEC's experience confirms that in-building competition is most likely to have an effect on RBOC wholesale pricing

TDS CLEC's market experience is consistent with Mr. Anderson's observation that AT&T's wholesale Ethernet pricing is more aggressive for a small percentage of the buildings where AT&T wholesale Ethernet is available in a serving wire center.[98] Mr. Loch explains that

[95] Baker Declaration, ¶ 63.
[96] Besen and Mitchell Declaration, ¶ 27.
[97] Besen and Mitchell Declaration, ¶ 31.
[98] Anderson Declaration, ¶ 28.

RBOCs charge in the range of 15% -25% more for wholesale Ethernet service in buildings where there are no fiber-based competitors than where fiber-based competition to the building already exists. Similarly, he observed that in TDS CLEC markets where the RBOC does not yet have fiber extended to a building (off-net), the wholesale Ethernet rate charged to complete the fiber build is approximately 50% -55% more than what is charged for on-net building where a fiber-based competitor is present.[99] Moreover, even in buildings where TDS CLEC competes with the RBOC using wholesale Ethernet, the RBOC has refused to lower its pricing from off-net to on-net,[100] providing further evidence that competition using wholesale loops from the RBOC does not constrain their supracompetitive pricing behavior.

III. CONCLUSION

The market for Ethernet special access is broken. The Commission should repair it by requiring RBOCs to (1) offer Ethernet at a wholesale rate below retail, reflecting the costs the RBOC avoids when it sells at wholesale and (2) adopting a disclosure requirement for RBOC retail Ethernet rates to help the Commission and competitors detect and deter unjust and unreasonable discrimination.

Respectfully Submitted,

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[99] Third Loch Declaration, ¶ 15.
[100] *Id.*, ¶ 16-17.

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