In the Matter of

Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks

WC Docket No. 18-141

OPPOSITION OF INCOMPAS, FISPA, MIDWEST ASSOCIATION OF COMPETITIVE COMMUNICATIONS, AND THE NORTHWEST TELECOMMUNICATIONS ASSOCIATION

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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Pursuant to 47 U.S.C. § 160(c) to Accelerate
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OPPOSITION OF INCOMPAS, FISPA, MIDWEST ASSOCIATION OF COMPETITIVE COMMUNICATIONS, AND THE NORTHWEST TELECOMMUNICATIONS ASSOCIATION

INCOMPAS, the internet and competitive networks association;1 FISPA;2 the Midwestern Association of Competitive Communications (“MACC”);3 and the Northwest Telecommunications Association4 (collectively, the “Competitive Carriers Group”), on behalf of themselves and their respective members, oppose USTelecom’s Petition for Forbearance (“Petition”) insofar as it seeks forbearance from the core local telecommunications competition

1 INCOMPAS is the preeminent national industry association for providers of internet and competitive communications networks, including both wireline and wireless providers in the broadband marketplace.

2 FISPA is a national consortium of small to mid-range CLECs and service providers whose mission is to unite and advance our priorities of broadband choice, quality, and speed through member collaboration, advocacy, and education.

3 MACC is a leading Midwest trade association of competitive carriers formed to support an environment that fosters competition in the communications marketplace. MACC members supporting this filing include Birch Communications, First Communications, Granite Telecommunications, TDS Metrocom, and Allstream.

4 The Northwest Telecommunications Association (NWTA) is an association of Service Providers and small Competitive Carriers that offers broadband and voice service in all of Oregon, Washington, and Idaho. All providers serve some rural markets, and many provide only to rural markets.
requirements set forth in Section 251(c)(3), (c)(4) and associated requirements in Sections 251(d)(3) and 252 (“Category 1”); and 272(e)(1) (“Category 2”) of the Communications Act of 1934, as amended by the Telecommunications Act of 1996. As set forth in the Competitive Carriers Group’s accompanying Motion for Summary Denial, USTelecom’s Petition must be summarily denied, because USTelecom failed to provide the information needed to determine the impact forbearance would have on competition in both retail and wholesale markets and on consumers, and thus has not met its burden to establish its prima facie case that it meets all of Section 10’s requirements for forbearance. As described further below, the Petition also must be denied because it is manifestly against the public interest, and would harm competition and consumers.

I. INTRODUCTION AND SUMMARY

Like politics, telecommunications competition is local. Competitive choices in New York City do not provide any basis for assessing communications competition in Kansas, especially rural Kansas. Indeed, unless service can be expanded at relatively low costs with few operational barriers, competitive service at one location may not even be informative as to the competitive choices available to a neighbor a short distance away. And competitive networks are not ubiquitous. Data collected in the Commission’s Business Data Services proceeding showed that 77% of locations with business data services demand had only a single full facilities-based provider (i.e. a provider with its own loop facilities to the customer’s premises)

5 Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks, WC Docket No. 18-141 (filed May 4, 2018) (“Petition”). Competitive Carriers Group is not endorsing USTelecom’s other forbearance requests.

6 Motion for Summary Denial, WC Docket No. 18-141 (filed Aug. 6, 2018) (“Motion for Summary Denial”).
available at their location – which jumped to 84% for locations with less than 100 Mbps of cumulative demand.\textsuperscript{7} With respect to mass market consumers – who even USTelecom recognizes most frequently purchase not just voice, but also broadband\textsuperscript{8} – FCC data show 13% of census blocks lack any provider of broadband at 25 Mbps download and 3 Mbps upload, with another 30% of census blocks having only one such provider.\textsuperscript{9} And measuring providers in a census block overstates the level of actual competitive choice. USTelecom, in its Petition, ignores this local variation in competitive conditions, seeking “one-size-fits-all” forbearance, as if the country had “one-size-fits-all” communications competition.

Contrary to USTelecom’s unsupported assertions, the facts are that competitive, facilities-based telecommunications providers today invest in reaching UNEs to provide a wide range of services across the country. For example, Digital West in San Luis Obispo County and Santa Barbara County, California and Virginia Global in rural Rockbridge County, Virginia, use unbundled loops (including subloops) and transport in combination with their own facilities and investment to provide voice and broadband to consumers that have no other alternative for wireline broadband internet access; neither the incumbent LEC nor cable company provide broadband. In other cases, companies such as Sonic in California, Socket in Missouri, Gorge in Oregon, First Communications in three midwestern states, and Allstream in eleven western states are utilizing UNE loops and transport in combination with their own facilities to push the ILECs and cable incumbent to improve their broadband offerings. In many locations for these

\textsuperscript{7} Letter from John T. Nakahata, Counsel to Windstream, to Marlene H. Dortch, Secretary, FCC, at 3, WC Docket Nos. 16-143 et al. (filed Oct. 21, 2016).
\textsuperscript{8} See Petition at 19.
companies, there may only be one other wireline broadband provider, and, in some, none at 25 Mbps downstream and 3 Mbps upstream. Many ILEC end offices are not Ethernet-enabled, but a CLEC using xDSL-capable copper loops can use its own electronics to deliver Ethernet to those locations.

In addition, many of these companies use UNEs as a bridge to the deployment of fiber loops (whether by themselves or by third parties) – and pushing ILECs and cable incumbents to up their game as well. Sonic, for example, has been building fiber-to-the-home and now serves 28% of its customers over its own fiber network. Sonic was the first provider in San Francisco, California, to engage in widespread deployment of Gigabit fiber-to-the-home service – which pushed AT&T and Comcast to respond with their own upgrades. Virginia Global has built fiber in rural Virginia, as is Gorge in Oregon, as are many others. Virginia Global also reports that CenturyLink did not start deploying high speed internet access from remote terminals in its service area ***BEGIN CONFIDENTIAL***

***END CONFIDENTIAL***. And UNEs as a bridge to fiber is not limited to two-pair copper: DS1s and DS3 loops are also important to reach customers that are too far from an ILEC central office or sit on hybrid loops behind remote terminals, and allow CLECs to build their customer base until they have a sufficient base to support extending their own fiber either to the remote terminal or to the customer premises. As the U.S. Small Business Administration recently explained in a letter to the Commission, the presence of CLECs using UNEs as a bridge to building fiber has pressured incumbents to do likewise. All of this shows that companies do not need to have large market shares, nationally or regionally, to have a significant competitive impact that benefits consumers.
UNE and avoided-cost resale support CLEC last-mile fiber network builds in other ways as well. For example, CLECs that serve the principal locations of their multilocation customers on their own last-mile fiber networks need to be able to reach the customers’ other, remote locations and use UNEs and resale to do so. Without the ability to use UNEs or avoided-cost resale to reach those remote sites of multilocation customers, the economic case for CLEC fiber deployment to the principal location also falters.

USTelecom wholly ignores the role that UNE interoffice dark fiber plays in supporting rural fiber deployment, as well as the other competitive alternatives in rural areas. UNE interoffice dark fiber, by definition, uses excess fiber capacity to allow CLECs cost-effectively to backhaul traffic out of rural areas. For CLECs building rural last-mile fiber networks, UNE dark fiber allows them to connect disparate service areas of last mile fiber into a coherent network on a cost-effective basis.

Furthermore, UNEs and avoided-cost resale allow CLECs to focus on benefitting consumers by providing improved service delivery and support to specialized customer niches, including governments, public safety services (including PSAPs), health care providers, schools and other educational institutions, and small and medium-size businesses. The quality of service delivery and support is extremely difficult to promote except through competition. Large providers, such as the ILECs (including their CLEC affiliates), cannot serve all customers well. They will focus on the customers that bring them the most revenue for the lowest customer acquisition costs. But smaller entities can use UNEs and avoided-cost resale to specialize in these niches which may otherwise not receive top-level attention. Allstream, for example, focuses on health care providers and financial institutions that have specific needs for highly secure private networks, but whose smaller size and higher customer acquisition costs make
them less attractive customers to the ILECs. As another example, Socket distinguishes itself, among other ways, by committing additional resources to achieve significantly higher customer satisfaction than its ILEC competitors. Granite combines high quality service and convenience with avoided-cost resale. Competition for UNEs and resale, even if not a large share of the overall market, helps improve service to high-need, higher cost customers.

Avoided-cost resale enables the provision of products tailored to the needs of multi-location businesses that demand reliable, low bandwidth service. Importantly, traditional TDM-based business telephone services remain vital to business and government users. Competitive providers rely on avoided-cost resale to offer traditional TDM-based business telephone services to such multi-location businesses as retailers, restaurants, hospitality companies, real estate companies, healthcare providers, banks and financial service companies, public utilities, non-profit organizations, and governmental agencies. As David Redl, Assistant Secretary for Communications and Information for NTIA, explained in a letter to Chairman Pai, many federal government users rely on traditional TDM-based services. He cautioned that discontinuance of services provided over copper networks could place federal departments and agencies in the untenable position of losing access to critical national security and public safety communications. Contrary to USTelecom’s assertion, the use of traditional TDM-based business telephone service is not about to disappear among business users that rely on its special characteristics, including the advantages of a self-powered network.

Multi-location business customers that rely on competitive providers using traditional TDM as an input to value-added services would be harmed by the elimination of the avoided-cost resale requirement. For example, multi-location business customers value competitors’ position as “one-stop shops” that coordinate billing and provide enhanced customer service
across multiple ILEC regions. Without these value-added innovations, customers would almost need to coordinate and negotiate with many ILEC vendors – sometimes even hundreds of them. And for each ILEC vendor, customers would need to review and pay separate monthly telephone bills.

USTelecom’s Petition addresses none of this diversity both in the competitive environment and among consumers. USTelecom asks the Commission to grant a blunt “one-size-fits-all” forbearance from the Telecommunications Act of 1996’s landmark pro-competition provisions that enable this wide variety of additional, improved or specialized options for residential and business consumers. And USTelecom provides no data from which the Commission could assess the impact of forbearance.

What is clear is that a grant of USTelecom’s petition will make some wholesale options entirely unavailable, and dramatically raise the price for others. There is no wholesale product in the market today that is a substitute for a two-wire or four-wire copper UNE loop. Carriers that purchase these UNEs cannot obtain the same functionality from a special access line, because they cannot add their own electronics to offer a better service. Similarly, it is extremely difficult to obtain dark fiber, especially on the routes to rural areas where UNE interoffice dark fiber is available. Special access DS1 and DS3 channel terminations as well as transport services are all priced substantially higher than UNEs – rates which increased in so-called “competitive” areas after the Commission’s BDS Order took effect.

The plain impact of a grant of USTelecom’s Petition would be to either make UNE and resale-based wholesale services unavailable entirely or to raise their price. Either result harms consumers. If ILECs are no longer required to provide UNE transport or loops, then carriers such as IdeaTek and Digital West could be stopped in their tracks and may have to cease
providing broadband in areas where they are the only provider. Moreover, they and other partial facilities-based carriers would no longer be able to use UNEs to create a bridge to building and deploying their own last-mile fiber, reducing the competitive pressure on ILECs and cable incumbents to do the same. And the impetus for improved broadband service quality would also decline, as CLECs would no longer be able to use xDSL-qualified copper UNE loops to introduce higher speed and quality broadband services to residential and business consumers, putting competitive pressure on the ILEC and cable provider to do the same. Consumers with specialized needs that create higher customer acquisition costs, such as banks, health care providers, and public safety services, would lose the availability of a niche or specialized service provider that was uniquely attentive to their needs – or, at a minimum, face higher prices for those services.

Faced with these on-the-ground realities, USTelecom’s petition cannot meet any of Section 10’s requirements for forbearance. Forbearance will undermine competitive pressures on ILECs and cable incumbents to keep rates for combined voice and broadband services, as well as private line services, low, rather than settling into a stable duopoly. It will also create upward pressures on retail rates by raising rivals’ costs. Forbearance will undermine protection for consumers by reducing competition that is the best method for ensuring continued investment in improved services, service quality, and support. Forbearance will undermine the public interest by reducing competition and choice, especially for consumers that are in niches that are higher cost that larger players may not wish to devote the resources to serve. The “benefits” of forbearance will accrue to ILECs, by enabling them to raise rivals’ costs, sustain higher end user prices, and delay making investments to improve their networks and services.
USTelecom’s Petition cannot be justified based on arguments that it will promote broadband deployment. In fact, forbearance will do the opposite. Current rules give ILECs a path out of UNE loop unbundling requirements: when ILECs deploy fiber and retire copper, their obligation to unbundle DS0 loops, and potentially DS1 and DS3 loops,\(^\text{10}\) ends.\(^\text{11}\) This “natural forbearance” already built into the UNE rules gives both ILECs and CLECs an incentive to deploy fiber rapidly – for the ILEC so that it can end loop unbundling obligations and for the CLEC so that it can have a way to serve its customers when the ILEC retires the copper loop. Similarly, the Commission’s existing rules with respect to interoffice transport phase out the availability of those UNEs as transport competition to those wire centers increases. With forbearance, the ILEC gets rid of UNE obligations without deploying fiber, and the CLEC loses the time needed to build additional fiber. Without the competitive pressure from partial facilities-based CLECs, ILECs would have even less incentive to build out fiber to those communities that they have already passed over. ILECs are seeking to move from a regime of “show me the buildout” to one of simply “trust me,” without accountability for results.

USTelecom’s Petition also cannot be justified by the BDS Order. Although we believe that the BDS Order was wrongly decided and have petitioned for judicial review of that order, even that order found some BDS markets to be non-competitive. Yet the Petition seeks forbearance even in these non-competitive markets, with no explanation as to how that can be

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\(^{10}\) The question of whether unbundling obligations continue for DS1 and DS3 loops after conversion to fiber or Internet Protocol is separately pending before the Commission. See Petition for Declaratory Ruling to Clarify That Technology Transitions Do No Alter the Obligation of Incumbent Local Exchange Carriers to Provide DS1 and DS3 Unbundled Loops Pursuant to 47 U.S.C. § 251(c)(3), GN Docket No. 13-5 (filed Dec. 29, 2014).

\(^{11}\) See 47 C.F.R. § 51.319(a)(2) (stating that ILECs must provide unbundled access to “the time division multiplexing features, functions, and capabilities of that hybrid loop, including DS1 or DS3 capacity”); id. § 51.319(a)(3) (describing limited requirements for fiber loops).
reconciled with the *BDS Order*. Even in markets that the *BDS Order* deemed competitive, that Order was based on the Commission’s predictive judgment that adequate competition would arise within five years (which would be by 2022) to protect BDS consumers against monopoly pricing. UNEs, however, provide a means for consumers to obtain the benefits of competition before those competing facilities can be built (if they are feasible) over that five-year period, as well as providing a customer-driven path to building those facilities. And they also provide a hedge against the Commission once again being too optimistic about the pace of the arrival of competitive alternatives for the 77% of BDS locations that had no service from anyone other than the ILEC.

Finally, the ill-conceived forbearance sought in the Petition cannot be saved by its transition plan. Even as modified, the transition plan would immediately end the availability of UNEs where they have not already been ordered. By itself, in a flash-cut, this ends the ability of partial facilities-based CLECs to add the customers necessary to reach critical mass to support fiber deployment to the customers’ premises. It would immediately halt the competitive pressure the partial facilities-based carriers exert to spur additional upgrades by ILECs and cable incumbents, as well as the ability of partial facilities-based carriers to deliver their targeted and tailored offerings to customers in specialized niches or in need of higher quality customer service. This flash-cut will have its greatest impact in rural markets where competition is least developed – and least likely to develop because of lower density – but will have effects across a much broader sweep of markets, including in urban areas, where partial facilities-based carriers are introducing higher capacity ahead of incumbents or otherwise tailoring their offerings to specific users. The proposed 18-month transition also does not provide nearly enough time for every competitive provider that uses UNEs to build alternative inputs because of endemic
operational barriers, including local permitting, rights of way and building access, and other practical impediments, all of which would be exacerbated by a nation-wide, simultaneous demand for limited engineering, make-ready, utility locates, and other specialized labor needed to deploy fiber networks.

For all these reasons, and because USTelecom has failed entirely to put forward evidence sufficient to establish its *prima facie* case in any relevant product and geographic retail and wholesale markets, as required by *Qwest Phoenix Forbearance Order*, USTelecom’s Petition must be denied. The harms from forbearance are real; the purported benefits, unsubstantiated and conjectural.

II. BACKGROUND

The Petition fails to provide an accurate and sufficiently detailed account of the market conditions, services, and customers that would be severely affected by the forbearance it seeks. Competitive Carriers Group and their members are providing, in this Opposition, additional relevant factual context for how UNEs and avoided-cost resold lines are used in today’s communications markets. This section first describes the various types of customers and communities that competitive providers serve using a combination of their own facilities and equipment, commercially available wholesale services (in sufficiently competitive wholesale markets), as well as UNEs and avoided-cost resold lines. Next, this section provides an overview of the Commission’s unbundling and avoided-cost resale requirements. Third, this section summarizes the evidence of high entry barriers and market concentration that limit current and prospective competition in the wholesale markets for customer access inputs, where UNEs and avoided-cost resale are crucial to competitive providers’ ability to offer service.
A. Our Member Providers Serve A Diverse Range of Voice and Data Customers

The Petition largely focuses on voice service and ignores all the other ways in which providers use UNEs and resold lines to offer competitive alternatives to, or innovative improvements upon, a host of ILEC voice and data services for residential and business, government, and nonprofit customers alike. For the Commission to appreciate the scope and potential impact of the forbearance sought in the Petition, it needs to consider the wide-range of customers served by competitive providers. Moreover, as discussed in Section III.A, the Commission also needs to consider how competitive providers are using UNEs and resold lines to reach underserved urban and rural areas, to deliver innovative and differentiated services not offered by the incumbents, and to incrementally build-out their own fiber networks.

1. Our Member Providers Offer Competitive Alternatives for Voice and Data Services to Small Businesses, Government Agencies, Schools, and Healthcare Providers Across the Country

Our members provide voice and data services to a variety of enterprise customers across the country, from small and medium size businesses (“SMBs”) to government agencies, Universal Service Fund recipients, schools, emergency services, and healthcare providers. The

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12 See Declaration of John Hoehne ¶¶ 2, 8, attached hereto as Attachment 3 (“Access One Decl.”); Declaration of Douglas Denney ¶¶ 2, 14, attached hereto as Attachment 4 (“Allstream Decl.”); Declaration of James Bellina ¶ 3, attached hereto as Attachment 5 (“Dialog Decl.”); Declaration of Jeff Buckingham ¶ 2, attached hereto as Attachment 6 (“Digital West Decl.”); Declaration of Todd Way ¶ 2, attached hereto as Attachment 7 (“DFN Decl.”); Declaration of Gregory J. Darnell ¶ 2, attached hereto as Attachment 8 (“Fusion Decl.”); Declaration of Dan Bubb ¶ 2, attached hereto as Attachment 9 (“Gorge Decl.”); Declaration of Fletcher Kittredge ¶ 2, attached hereto as Attachment 10 (“GWI Decl.”); Declaration of Daniel Friesen ¶ 2, attached hereto as Attachment 11 (“IdeaTek Decl.”); Declaration of Jeff Rhoden ¶ 2, attached hereto as Attachment 12 (“InfoStructure Decl.”); Declaration of Brian Worthen ¶¶ 2, 9, attached hereto as Attachment 13 (“Mammoth Decl.”); Declaration of Raul Alcaraz ¶ 2, attached hereto as Attachment 14 (“Race Decl.”); Declaration of R. Matthew Kohly ¶¶ 3, 8, attached hereto as Attachment 16 (“Socket Decl.”); Declaration of Dusan Janjic ¶ 2, 10, attached hereto as Attachment 16 (“Virginia Global Decl.”); see also Declaration of Margi Shaw ¶ 2, attached to Opposition of First
services they offer range from traditional voice and data services to IP telephony, cloud and data security, SIP services, advanced Primary Rate Interface ISDN (“PRI”), Multiprotocol Label Switching (“MPLS”), and other innovative offerings.13

Our members use and pay the incumbents for a wide range of UNEs, including the copper-pairs (or DS0), DS1, and DS3 categories of loops, subloops, and interoffice transport, interoffice dark fiber transport, and enhanced extended loops (“EELs”).14 Many competitive providers use UNEs as cost-effective last mile connections to customer premises and use interoffice transport UNEs as cost-effective backhaul to carry voice and data traffic to


13 See, e.g., Access One Decl. ¶ 3, 8 (MPLS); Allstream Decl. ¶ 4 (SIP); Digital West Decl. ¶ 11 (SIP and PRI); Gorge Decl. ¶ 9 (PRI); First Communications Decl. ¶ 10 (SD-WAN; managed and cloud services); IdeaTek Decl. ¶ 3 (PRI, VOIP/SIP trunking); Socket Decl. ¶ 11 (PRI), 6, 35 (MPLS, hosted voice services, failover capabilities); TelNet Decl. ¶ 2; see also GWI Decl. ¶ 15 (“In 2004, GWI became the first provider in the U.S. to offer ADSL2+ service [using UNEs] and we deployed it to more than 50 [central offices]. It took years for the ILEC to deploy ADSL2+ to those markets.”); TPx Decl. ¶ 5 (unified communications); Clear Rate Decl. ¶ 5; Declaration of William H. Oberlin ¶ 2 (PRI), attached to Comments of the Michigan Internet and Telecommunications Alliance, WC Docket No. 18-141 (filed Aug. 6, 2018) (“Bullseye Decl.”); Declaration of Kevin Schoen ¶ 1 (DSC, T1, ISDN-PRI), attached to Comments of the Michigan Internet and Telecommunications Alliance, WC Docket No. 18-141 (filed Aug. 6, 2018) (“ACD Decl.”).

14 Access One Decl. ¶10-11; Allstream Decl. ¶ 6; Dialog Decl. ¶ 3; Digital West Decl. ¶ 5; DFN Decl. ¶ 5; First Communications Decl. ¶ 8; Fusion Decl. ¶ 3; Gorge Decl. ¶ 4; GWI Decl. ¶ 5; IdeaTek Decl. ¶ 4; Mammoth Decl. ¶ 6; Socket Decl. ¶ 11; Sonic Decl. ¶¶ 4, 5, 7; Virginia Global Decl. ¶ 6; TPx Decl. 10.
centralized switches or the providers’ own network, when its own transport is unavailable. Some providers like Socket, IdeaTek, and Sonic use unbundled interoffice dark fiber transport as the critical middle-mile fiber to connect to their own last-mile facilities to reach consumers and to connect to the ILEC central offices where the providers’ electronics are collocated. Other providers, such as Gorge Networks, First Communications, and Digital West also use unbundled subloops or EELs, which are sometimes the only way to reach customers and their remote terminals.

Access to UNEs enable competitive providers to offer differentiated services from their incumbent counterparts in several ways. First, competitive providers use UNEs to increase the service quality and reliability of their voice and data offerings. For example, Sonic bonds DS0 UNE loops to offer enterprise customers Ethernet-over-Copper (“EoC”) at speeds of up to 100 Mbps for symmetric and up to 400 Mbps/50 Mbps for asymmetric broadband. Indeed, Sonic offers faster broadband service than AT&T in nearly all of the census blocks Sonic serves. Other providers offer similar speed or reliability benefits based on UNEs. CLECs use DS1

15 Allstream Decl. ¶¶ 7, 6; DFN Decl. ¶ 5; First Communications Decl. ¶¶ 7, 8; Socket Decl. ¶ 36; Sonic Decl. ¶ 7; Virginia Global Decl. ¶ 6.
16 Socket Decl. ¶ 36; Sonic Decl. ¶ 7; see also IdeaTek Decl. ¶ 5; Digital West Decl. ¶ 10; Mammoth Decl. ¶¶ 9, 11.
17 Gorge Decl. ¶ 9; First Communications Decl. ¶ 12; Digital West Decl. ¶¶ 5, 11.
18 See David E. M. Sappington, Premature, Ubiquitous Forbearance Will Harm Consumers, at 11, attached hereto as Attachment 1 (“Sappington Report”) (“A single firm is seldom best-equipped to meet the diverse needs of all potential customers. Instead, different firms develop the skills, expertise, and resources required to best meet specialized needs.”).
19 Sonic Decl. ¶ 5.
20 Declaration of William P. Zarakas ¶ 18 and Figure 2, attached hereto as Attachment 2 (“Brattle UNE Decl.”).
21 See, e.g., Dialog Decl. ¶ 5 (“Using DS0 UNEs, Dialog offers broadband speeds to customers of up to 30 Mbps download and 30 Mbps upload.”), InfoStructure Decl. ¶ 9 (“The use of
UNE loops, sometimes combined with UNE transport (EELs), to serve customers located too far from the control office to be served by bare copper, or in an end office other than where the CLEC is collocated. Second, CLECs use UNEs to offer services tailored for specialized customer niches, including governments, public safety services (including PSAPs), healthcare providers, banks, schools and other educational institutions. In many cases, these customers want a private network and cannot find suitable ILEC or incumbent cable services to meet their security needs. For example, Allstream provides integrated voice and data service to healthcare providers that require secure networks to comply with specific HIPAA requirements. Similarly, in areas in rural Missouri that lack PRI, Socket uses UNE DS1 EELs to provide enterprise customers, including state law enforcement agencies, and emergency services, with this service. For Socket customers, “local ISDN-PRI allows [them] to send multiple Caller ID numbers letting them differentiate specific locations or departments, which “is critical for customers in a campus environment needing to make emergency calls to law

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UNETs enables InfoStructure to . . . provide faster more reliable service than the ILEC due to bonding copper loops and providing higher feeder capacity . . . .”); Gorge Decl. ¶ 6 (“The use of UNEs enables Gorge Networks to . . . provide faster more reliable service than the ILEC due to bonding copper loops and providing higher feeder capacity . . . .”); Mammoth Decl. ¶ 12 (“We are the only route redundant option to three rural hospitals (in Douglas, Wyoming; Torrington, Wyoming; and Steamboat Springs, Colorado), the two largest PSAPs in Wyoming, five counties including their Sheriff’s Offices, and 14 towns and cities.”); TPx Decl. ¶ 10 (TPx offers EoC at speeds ranging from 5 to 100 Mbps to nearly 14,000 customer locations).

22 Socket Decl. ¶¶ 9, 15; Allstream Decl. ¶ 6.
23 Access One Decl. ¶ 10; Allstream Decl. ¶ 16; Digital West Decl. ¶ 9; Gorge Decl. ¶ 7; GWI Decl. ¶ 11; InfoStructure Decl. ¶ 9.
24 Allstream Decl. ¶ 16.
25 Socket Decl. ¶ 11; see also Gorge Decl. ¶ 9 (providing PRI to schools and businesses in rural Oregon).
enforcement or emergency response agencies to let them know the specific location of the emergency.”

Competitive providers similarly rely on avoided-cost resale services to offer enterprise customers voice and data services tailored to those customers’ needs, including in markets where these CLECs provide the only TDM-based business telephone service alternative to the ILEC. Companies like Granite and TPx use resold services to deliver voice, basic data, trouble-shooting, and coordinated billing services to consumers with low-bandwidth needs. These consumers range from single-location mom-and-pop shops to multi-location customers, spread across multiple ILEC footprints, “operating simultaneously at hundreds, if not thousands, of dispersed locations throughout the nation.” For example, Granite coordinates with ILECs for the provision of traditional TDM-based business telephone services to its customers and handles the processing and payment of dozens or hundreds of separate bills. The role of Granite and other competitive carriers in providing these and other benefits is well recognized. Granite alone serves about 400,000 customer locations nation-wide, and its customers include banks,

26 Socket Decl. ¶ 11; see also First Communications Decl. ¶ 13 (“We have numerous schools, libraries, health care providers and government institutions that use our service and rely on the network we have built and connected with them.”).
27 See Granite Decl. ¶¶ 10-11.
28 See, e.g., id. ¶¶ 4-8; TPx Decl. ¶ 34.
29 Sappington Report at 13; see also Granite Decl. ¶ 4.
30 Granite Decl. ¶ 7.
31 Declaration of Dr. John Mayo ¶¶ 12-14, appended as Exhibit A to Comments of CTIA, WC Docket Nos. 17-287, 11-42, and 09-197 (filed Feb. 21, 2018) (describing then role of telecommunications resellers in promoting economic efficiency, invigorating competition, driving price reductions, and satisfying the nuanced needs of consumers that would otherwise go unfulfilled).
retailers, and government agencies. Indeed, Granite provides service to more than 80 of the Fortune 100 companies. Without these value-added services, customers would almost certainly need to coordinate and negotiate with many ILEC vendors – sometimes even hundreds of them. And for each ILEC vendor, customers would need to review and pay separate monthly telephone bills.

To provide its services, Granite purchases a significant amount of resale services, ***BEGIN HIGHLY CONFIDENTIAL*** of its POTS lines. While Granite most often enters into commercial arrangements with ILECs to purchase traditional TDM-based business telephone services, ILECs do not offer commercial wholesale voice platform agreements in all markets. And in other markets where commercial wholesale platform agreements are available, ILECs may restrict the types of customers (e.g., customers served by fiber), while other ILECs restrict the services and features (e.g., remote call-forwarding) that can be served using those commercial agreements. In these cases, CLECs such as Granite rely on purchasing resale services to offer customers competitive alternatives. And even where CLECs rely on commercial arrangements, the existence of the option of avoided-cost resale effectively limits the ability of any particular ILEC to demand higher rates under commercial wholesale agreements.

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32 See Granite Decl. ¶ 4, 6; Access One Decl. ¶ 18.
33 See Granite Decl. ¶ 4.
34 See Granite Decl. ¶ 40; see also Socket Decl. ¶ 4; Fusion Decl. ¶ 10; Bullseye Decl. ¶ 5; TPx ¶ 35.
35 Granite Decl. ¶ 40.
36 Id. ¶ 10.
37 Granite Decl. ¶ 34.
cost discount is to counter the monopoly power of the ILEC by providing competitive carriers with a market alternative, namely the ability to rely on Section 251(c)(4) if ILECs demand supra-competitive prices for their commercial wholesale agreements.

In addition to offering differentiated services to specific customer segments, competitive providers also use UNEs and resold services to reach customers in underserved areas, including in remote rural locations. Competitive providers like Digital West in California supply broadband service to enterprise customers in rural regions that lack broadband service options from ILECs.\textsuperscript{38} TPx, which provides telecommunications services in California, Nevada, and Texas, and managed services nation-wide, notes that only 25\% of its customers have existing fiber alternatives in their respective buildings.\textsuperscript{39} Access One, which primarily provides voice and data services to SMBs in the greater Chicago area, serves customers including nonprofits, hospitals, and schools districts in lower-income urban neighborhoods.\textsuperscript{40}

2. Our Members Offer Voice and Broadband Service to Residential Customers, Including Many in Underserved Rural and Urban Areas

Our members also offer residential voice and broadband service, and many use the same UNEs discussed above to reach residential customers in underserved rural and urban areas.\textsuperscript{41} For

\begin{itemize}
  \item Digital West Decl. ¶ 12. Additionally, Mammoth, a CLEC serving rural areas in Montana, Colorado, and Wyoming, notes that it is the “only route redundant option to three rural hospitals … the two largest PSAPs in Wyoming, five counties including their Sheriff’s Offices, and 14 towns and cities.” Mammoth Decl. ¶ 12.
  \item TPx Decl. ¶ 14.
  \item Access One Decl. ¶ 14.
  \item IdeaTek Decl. ¶ 4 (using interoffice dark fiber transport UNEs to support its services to rural and underserved markets. “Even where an ILEC central office may have broadband service, we often extend our service outside the ILEC service coverage area and start serving the rural farms and homes often underserved or served with lower-speed broadband.”); First Communications Decl. ¶ 9.
\end{itemize}
example, CLECs like IdeaTek in Kansas and Virginia Global in rural Rockbridge County, Virginia, respectively use unbundled dark fiber interoffice transport and unbundled UNE loops (including subloops) to provide voice and broadband to residential consumers that have no other alternative for wireline broadband internet access.\(^4\) Virginia Global combines its own equipment with copper loops to provide DSL service to rural customers that live beyond the reach of ILEC ADSL service.\(^4\) IdeaTek uses interoffice dark fiber transport UNEs to connect from an urban central office to rural unserved central offices, from which it builds its own local facilities – utilizing the ILEC’s unused transport fiber to support its services in rural and underserved areas.\(^4\)

Competitive providers also offer residential voice and data services in urban markets. Sonic uses UNE DS0 loops with vDSL2 to deliver broadband services to residential customers at speeds up to 50 Mbps (or 100 Mbps over a bonded pair), and offers complements to basic voice service (\(e.g.,\) robocall blocking) that customers often cannot obtain from ILECs.\(^4\) Sonic reports that it was the first company to deliver fiber-to-the-home in several regions of California; in many neighborhoods, the incumbent AT&T only began offering the service in response to Sonic’s initiative.\(^4\) Similarly, Sonic was the first provider in San Francisco, California, to

\(^4\) IdeaTek Decl. ¶ 2; Virginia Global Decl. ¶ 2.

\(^4\) Virginia Global Decl. ¶ 8.

\(^4\) IdeaTek ¶ 4; see also Race Decl. ¶ 6 (“UNEs uniquely assist our ability to build fiber facilities to remote areas with particularly challenging terrain . . .”).

\(^4\) See Sonic Decl. ¶¶ 3-4.

\(^4\) Sonic Decl. ¶ 19; see also Sappington Report at 16.
engage in widespread deployment of Gigabit fiber-to-the-home service, which in turn pushed
AT&T, Comcast, and Wave to respond with their own upgrades.47

B. The Current State of Unbundling and Resale Under Section 251(c)(3) and (c)(4)

Following the Commission’s decisions in the Triennial Review Order (“TRO”)48 and
Triennial Review Remand Order (“TRRO”)49, ILECs are required to make available the
following unbundled network elements: local loops (including DS0, DS1, and DS3 loops, but
not dark fiber loops), subloops (including copper subloops and inside wire), network interface
devices (“NIDs”), interoffice transport, 911 and E911 databases, and operations support systems
(“OSS”).50 The obligation to provide UNEs, however, is not unqualified and is subject to a
myriad of exceptions designed to tailor unbundling requirements to actual or potential
competition, including the restrictions detailed below.51 In addition, the Act provides
mechanisms for ILECs to revise rates that they believe are unlawfully low.52

1. Availability of UNEs

DS0 Loops. While ILECs are required to unbundle DS0 copper loops for local exchange
services, they are not required to unbundle fiber loops, whether fiber-to-the-home or fiber-to-the-

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47 Sonic Decl. ¶ 13, 19.
48 Review of the Section 251 Unbundling Obligations of Incumbent Local Exch. Carriers,
Report and Order, Order on Remand, and Further Notice of Proposed Rulemaking, 18 FCC
(“TRRO”).
50 47 C.F.R. § 51.319.
52 See 47 C.F.R. §§ 51.503, 51.505.
curb, and are no longer required to unbundle a 64 kbps channel over fiber loops.\(^{53}\) When an ILEC overbuilds its existing copper network, it must leave the copper loop in place until the ILEC retires that loop under the copper retirement procedures,\(^{54}\) which the Commission is streamlining.\(^{55}\) The Commission has recognized that CLECs use DS0 loops to serve both residential and small business customers, and to offer not just voice, but also data services.\(^{56}\) CLECs can use the entire frequency range (low and high) of the loop to provide voice and broadband.\(^{57}\)

For hybrid loops, an ILEC is only required to provide access to the TDM features of the DS0 hybrid loop, or to make a fully copper loop available, but it has no obligation to unbundle any packet-based features of the hybrid loop.\(^{58}\)

\textit{DS1 Loops}. ILECs are not required to provide access to unbundled DS1 loops in wire centers with at least 60,000 business lines and at least four fiber-based collocators.\(^{59}\)

Additionally, a CLEC cannot obtain more than ten UNE DS1s to any single location (a total


\(^{54}\) 47 C.F.R. § 51.333.


\(^{56}\) TRO ¶ 210.

\(^{57}\) See 47 C.F.R. § 51.319(a)(1).

\(^{58}\) 47 C.F.R. § 51.319(a)(2); TRO ¶ 213.

\(^{59}\) 47 C.F.R. § 51.319(a)(4).
equivalent to 15.44 Mbps). There is a Petition for Declaratory Ruling pending before the Commission to resolve a dispute as to whether the obligation to unbundle a DS1 UNE loop continues after the ILEC converts its network to IP from TDM or to fiber from copper.

**DS3 Loops.** ILECs are only required to provide access to unbundled DS1 loops if the wire center does not have at least 38,000 business lines and at least four fiber-based collocators. A CLEC cannot obtain more than one UNE DS3 at any single location (i.e., it cannot obtain more than 44.736 Mbps in UNE DS3 capacity at that location). As with DS1s, there is a dispute and pending Petition for Declaratory Ruling as to whether the obligation to unbundle a UNE DS3 continues after the ILEC converts its network to IP from TDM or to fiber from copper.

**Interoffice Transport.** UNE DS1 interoffice transport is only required to be provided when neither of the two ILEC wire centers being connected has at least 38,000 business customers, at least four fiber-based collocators, or both. CLECs are limited to ten unbundled DS1 transport circuits on a given route. UNE DS3 interoffice transport is only required to be provided when neither of the two ILEC wire centers being connected has at least 24,000 business customers.

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60 *Id.*


62 47 C.F.R. § 51.319(a)(5).

63 *Id.*

64 Windstream PDR at 3 (arguing that the obligation to unbundle DS3 UNE loops continues).


66 *Id.*
customers, at least three fiber-based collocators, or both.\textsuperscript{67} CLECs are limited to 12 unbundled DS3 transport circuits on a given route.\textsuperscript{68} Dark fiber interoffice transport UNEs only are required to be provided when one of the ILEC wire centers does not have at least 24,000 business customers, at least three fiber-based collocators, or both – i.e., at least one end must be in a Tier 3 wire center.\textsuperscript{69}

\textit{Subloops.} ILECs are required to provide unbundled access to copper subloops only where the subloop “acts as a transmission facility between any point of technically feasible access in an incumbent LEC’s outside plant . . . and the end-user customer premises.”\textsuperscript{70} A “technically feasible” point is one “where a technician can access the copper wire within a cable without removing a splice case.”\textsuperscript{71} ILECs are not required to provide unbundled access to their feeder loop plant as standalone UNEs.\textsuperscript{72} Subloop unbundling obligations only apply to ILECs’ distribution loop plant.\textsuperscript{73} Only for subloops for access to multiunit premises wiring do ILECs have to provide unbundled access without regard to the capacity level or type of loop.\textsuperscript{74} The same subloop UNE limitations apply to inside wire owned or controlled by the ILEC.\textsuperscript{75}

\textit{Network Interface Devices.} Network interface devices are required to be provided either as part of an unbundled loop or subloop, or where the requesting carrier is using the ILEC’s NID

\textsuperscript{67} 47 C.F.R. § 51.319(d)(2)(iii).
\textsuperscript{68} Id.
\textsuperscript{69} 47 C.F.R. § 51.319(d)(2)(iv).
\textsuperscript{70} 47 C.F.R. § 51.319(b).
\textsuperscript{71} Id.
\textsuperscript{72} TRO ¶ 254.
\textsuperscript{73} Id.
\textsuperscript{74} 47 C.F.R. § 51.319(b)(2).
\textsuperscript{75} 47 C.F.R. § 51.319(b).
to connect its own loop facilities to on-premises wiring.\textsuperscript{76} As a practical matter, competitive providers do not purchase network interface device elements separate from unbundled loops.

\textit{911 and E911 Databases}. ILECs are required to provide unbundled access to 911 and E911 databases but are otherwise not required to offer unbundled access to call-related databases.\textsuperscript{77}

\textit{Operations Support Systems}. ILECS are only required to provide unbundled access to OSS for qualifying services.\textsuperscript{78} OSS is limited to the pre-ordering, ordering, provisioning, maintenance and repair, and billing functions supported by the ILECs’ databases and information.\textsuperscript{79}

2. \textit{Avoided-Cost Resale}

An ILEC that is not subject to the rural exemption must offer for resale at wholesale rates any telecommunications service the ILEC provides at retail to subscribers that are not telecommunications carriers.\textsuperscript{80} The ILEC cannot prohibit or impose “unreasonable or discriminatory conditions or limitations” on the resale, although states may prevent resellers from offering a service to a category of consumers other than the category of consumers to which the ILEC offers that service.\textsuperscript{81}

Under section 251(c)(4), ILECs only need to provide a resale discount for retail telecommunications services that the ILEC provides to subscribers; therefore, competing carriers

\textsuperscript{76} 47 C.F.R. § 51.319(c).
\textsuperscript{77} 47 C.F.R. § 51.319(e).
\textsuperscript{78} TRO ¶ 562.
\textsuperscript{79} 47 C.F.R. § 51.319(f).
\textsuperscript{80} 47 U.S.C. § 251(c)(4).
\textsuperscript{81} Id.
generally have no resale rights to ILEC services such as wholesale-only services, private carriage and information services. And unlike under section 251(c)(3)’s UNE requirements, competing carriers purchasing resale services under section 251(c)(4) can only provide the same service that the ILEC offers at retail.

C. Many of the Communities Served by Our Members Continue to Face High Barriers to Entry and Few If Any Competitive Choices in the Markets for Residential and Business Data Services

The Petition repeatedly states that “communications markets today are competitive,” that “ILEC voice services are subject to intense and durable competition,” and that “the marketplace is irrevocably open to competition.” The Petition’s focus on declining ILEC voice service customers sidesteps the commercial reality that residential and business customers frequently purchase voice and data (and other) capabilities as integrated services, and the ILECs overwhelming control the facilities necessary to provide these services. Given high entry barriers, the Commission should not assume that full facilities-based alternatives will appear post-forbearance on a nation-wide basis, and the Petition has provided no reason for the Commission to find otherwise.

82 Id; see also Business Data Services in an Internet Protocol Environment; Technology Transitions; 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, 32 FCC Rcd. 3459 ¶ 270 (2017) (“BDS Order”).
84 Petition at 7.
85 Id. at 10.
86 Id. at 26.
1. High Barriers to Entry Remain for Full Facilities-Based Entry in Many Geographic Markets

The Commission should not credit the Petition’s assertion that full facilities-based competition would suddenly emerge to fill the gaps left by UNE-based competitive providers if forbearance were granted. A basic premise of unbundling requirements is that UNEs are available only in those areas that meet the Commission’s impairment standard, meaning that the Commission has determined that lack of access to UNEs “poses a barrier or barriers to entry . . . that are likely to make entry into a market uneconomic” for a reasonably efficient competitor.\(^\text{87}\)

The Petition does not cite any evidence that the structural barriers to entry have been reduced anywhere in the intervening period since the Commission promulgated its impairment standard.

Competitive providers’ experiences confirm that significant barriers remain that make entry uneconomic, and that access to UNEs helps overcome these barriers. For example, ILEC control of utility poles continues to be an impediment to competitive providers’ ability to deploy last-mile facilities, which requires timely access to a large number of poles.\(^\text{88}\) As several competitive providers note, they face obstacles to attaching to poles, such as delayed access to information and poles that need reinforcement.\(^\text{89}\) Likewise, competitive providers explain that

\(^{87}\) TRRO ¶ 22.

\(^{88}\) See TRO ¶ 91 (noting that “barriers to entry that are solely or primarily within the control of the incumbent LEC” are relevant to impairment analysis).

\(^{89}\) See, e.g., Sonic Decl. ¶ 11. The Commission’s recent “one-touch make ready” order will help reduce pole issues once implemented, but will not address all impediments from pole attachments.
ILECs continue to enjoy significant first-mover advantages with respect to right-of-way access, particularly through utility easements across privately owned property.90

Additional barriers including state and local permitting delays and physical obstacles like waterways and railroad crossings make some existing ILEC routes “extremely costly, if not impossible, for [CLECs] to re-create.”91 For example, competitive fiber provider Southern Light LLC has submitted data showing that the time it took to receive permits from one state agency in 2017 totaled over 50 days, and the approval times across different regions subject to the agency’s jurisdiction varied from 32 days to over 114 days.92

Econometric analysis of the Commission’s BDS data collection also supports the conclusion that entry barriers to facilities-based competition remain high. Using the Commission’s extensive data on BDS prices and the location of non-ILEC fiber, Dr. Jonathan Baker found that the presence of one or two nearby (but not in-building) competitors does not impact ILEC prices.93 The high sunk costs of expanding the nearby network to serve customers in an off-net building often makes deployment uneconomical in the absence of outsized demand.94 Dr. Baker’s analysis examined the effect (or lack thereof) from providers with

90 See First Communications Decl. ¶ 19; Socket Decl. ¶¶ 28-29; see also TRO ¶ 89 (noting that first-mover advantages, including access to the rights-of-way, are barriers relevant to impairment analysis).

91 See Letter from Jeffrey R. Strenkowski, Vice President, Deputy General Counsel of Government Affairs, Uniti Fiber, to Marlene H. Dortch, Secretary, FCC, at 1, WC Docket No. 18-141 (filed July 13, 2018) (“Uniti Ex Parte”).


94 See id.
facilities within 2,000 feet of the customer location.\textsuperscript{95} The CostQuest study submitted in the BDS Proceeding similarly shows the importance of a critical mass of customers and customer density to the business case for building additional fiber facilities.\textsuperscript{96} In many of the communities served by our members, the closest fiber is more than 2,000 feet and the demand consists of primarily residential customers, both of which make it even more unlikely that a competitive provider can overcome the barriers to entry. Their actual on-the-ground experience confirms the difficulty of deploying new fiber networks, and the need to have amassed a group of customers prior to building out.\textsuperscript{97}

Owners of multitenant dwelling units erect further significant barriers to entry by raising the costs of building to higher density customer locations. As INCOMPAS explained in a separate proceeding, would-be competitive entrants have “routinely had property owners refuse access to [multitenant environments (“MTEs”)] despite receiving unsolicited orders for high-speed broadband service from tenants that were dissatisfied by the choices presented to them,”\textsuperscript{98} Furthermore, revenue-sharing arrangements between landlord and incumbent providers, which have become common, mean that landlords “have no incentive to grant access to competitive

\textsuperscript{95} See id.

\textsuperscript{96} See CostQuest, \textit{Analysis of Fiber Deployment Economics for Efficient Provision of Competitive Service to Business Locations} at 13-15 (estimating that, for a given building density, a decrease from the national aggregate ILEC market share of 58 percent to the national aggregate CLEC market share of 26 percent results in a 32 percent increase in the per-building cost), attached as Attachment A to 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, RM10593, WC Docket Nos. 05-25 & 15-1 (filed June 8, 2015).

\textsuperscript{97} See, \textit{e.g.}, Allstream Decl. ¶ 20 (“Without a sufficient customer base to justify the deployment of fiber facilities, it is much less likely that Allstream would be able to justify the investment in new fiber facilities.”); Socket Decl. ¶¶ 22-31; Sonic Decl. ¶¶ 18.

\textsuperscript{98} Comments of INCOMPAS, GN Docket No. 17-142, at 4 (filed July 24, 2017).
providers when any subscriber gained by that provider means reduced income to the landlord.”99

Without access to higher density MTEs, competitive providers are even less likely to clear the revenue hurdles — like those identified by CostQuest — that are necessary to make fiber deployment economically viable. Because they already have access and revenue-sharing agreements with these landlords, incumbent providers are far less likely to face this kind of entry barrier within their legacy service territories.

Indeed, even ILECs’ own fiber growth strategy indicates that wireline network deployment faces inherently high barriers to entry. For example, Verizon’s FiOS fiber deployment ceased entering new markets in 2010,100 and since then has mostly halted expansion even in existing markets.101 More recently, the ILECs’ method for growing their fiber networks has been through acquiring existing competitors and their networks, such as CenturyLink’s merger with Level 3 and Verizon’s purchase of XO, rather than building out their out-of-region networks.102

Consolidation in the cable industry likewise suggests that overbuilding the

99 Id. at 10.


102 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). The Commission’s independent economist Dr. Marc Rysman noted the “striking result” in the BDS data collection showing the “low number of buildings connected by facilities-based service from ILEC-affiliated CLECs.” Marc Rysman, “Empirics of Business Data Services,” Revised June 2016 at Table 4, https://docs.fcc.gov/public/attachments/DOC-340040A6.pdf. (“Rysman White Paper”).
incumbents’ networks presents daunting economic challenges and risks. Competitive providers throughout the country face the same and even greater challenges and risks due to their lack of scale compared to their much larger incumbent counterparts. The Commission has no reason to conclude that entry barriers have been reduced, especially in those markets where the Commission had already concluded competitors would be impaired without access to UNEs.

2. There Are Few if Any Alternatives to UNEs and Avoided-Cost Resale, Reflecting Highly Concentrated Wholesale Markets

Given the high entry barriers, it is not surprising that markets in many parts of the country remain highly concentrated for the services at issue in the Petition. Although the Petition barely discusses wholesale markets, the discussion above and supporting declarations from providers show that UNE and avoided-cost resale have enabled the development of innovative services in areas unserved or underserved by the incumbents. Without these requirements, there is no functional wholesale market, especially for DS0 copper loops. Forbearance, if granted, would effectively shut down the wholesale market in many areas, particularly with respect to two-wire and four-wire copper loops, and cause sharp price increases in other areas. The associated burdens will be borne by residential consumers, small and medium businesses, and government and nonprofit users.

First, the Commission’s data collection in both the BDS proceeding and through its Form 477 show that robust competition is far from ubiquitous. The baseline for competition, according to the data analyzed by Dr. Marc Rysman for the Commission, is that more than 77 percent of buildings have only one in-building full facilities-based business data services provider, nearly always the ILEC, and more than 99 percent of buildings have at most two
facilities-based providers. Among locations with bandwidth demand at or below 100 Mbps, which necessarily covers most of the end user locations served using UNE loops, the concentration is even higher, with approximately 84 percent of locations served only by the ILEC. This means that in the great majority of cases, competitive providers have no source of wholesale customer access other than the ILEC.

Including cable providers’ hybrid fiber-coaxial (HFC) networks does little to solve the problem of lack of wholesale competition. Cable providers often do not offer a wholesale customer access service on HFC networks comparable to unbundled loops and transport. Even where this is offered in buildings lit with cable providers’ fiber, the rates and terms are significantly worse than what is currently available. Moreover, cable providers’ HFC networks are unsuitable for certain requirements of government and of some business users such as private networks and robust service level guarantees, nor do cable companies provide the outage response times necessary for businesses that rely on cloud services. Cable providers’ networks also do not provide nation-wide coverage and are not present at all in some communities, particularly in rural areas.

Second, there are no commercially available substitutes for copper-pair (DS0) loops and, in many cases, dark fiber transport to Tier 3 central offices. Competitive providers such as

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103 See Rysman White Paper at Table 7.
104 Letter from John T. Nakahata, Counsel to Windstream, to Marlene H. Dortch, Secretary, FCC, at 3, WC Docket Nos. 16-143 et al. (filed Oct. 21, 2016).
105 See First Communications Decl. ¶ 11 (describing cable rate for the lowest bandwidth service that both is over 400% greater than its comparable UNE DS1 loop and EEL rate and requires a multiyear term commitment).
106 See Access One Decl. ¶ 10; Allstream Decl. ¶ 18.
107 See IdeaTek Decl. ¶ 2; Virginial Global Decl. ¶ 2.
Sonic, Allstream, and Socket use DS0 loops with their own equipment to offer customers high-speed broadband services. However, there simply is no special access or Ethernet equivalent to unbundled copper pairs. DS1 and DS3 special access service by definition include ILEC electronics, meaning that competitive providers have no ability to customize or upgrade the electronics to deliver better performance. Ethernet service likewise is furnished end-to-end, and wholesale purchasers likewise have no control over the electronics used by the facilities owner.

Competitive dark fiber transport is generally not available between ILEC central offices, which is where competitive providers using UNEs have made investment by collocating their equipment. Dark fiber owners typically commercially offer only lit transport services, and where dark fiber is commercially available, the cost is orders of magnitude greater than that for unbundled dark fiber. For example, Sonic estimates that purchasing commercial wholesale Ethernet transport would cost over 700 times more than its current unbundled dark fiber to provide the capacity that Sonic is able to achieve using its own electronics.

Third, even for unbundled DS1 and DS3 loops, ILEC special access and Ethernet rates likewise are often prohibitively expensive and come with multiyear commitments. For example, one competitive provider estimates that replacing its DS1 UNE loops with special access

\[\text{\textsuperscript{108}}\text{Socket Decl. ¶ 46; Sonic Decl. ¶ 15; Allstream Decl. ¶11; see also TPx Decl. ¶ 19 (noting that “[u]nbundled copper loops are a crucial bridge between today’s copper-based networks and the mainly-fiber networks of the future.”).}\]

\[\text{\textsuperscript{109}}\text{TPx Decl. ¶ 9 (“TPx can deploy its own electronics on either end of the DS0 loop, customizing and controlling the services provided over the loop, including service quality and security.”).}\]

\[\text{\textsuperscript{110}}\text{Socket Decl. ¶ 50; Sonic Decl. ¶ 16.}\]

\[\text{\textsuperscript{111}}\text{Sonic Decl. ¶ 16.}\]
services would involve monthly prices increases of more than 400%.

Another provider estimated that the cost of a DS1 special access channel termination and mileage would be up to 390% higher than the cost of its DS1 EEL.

For many customers, there also are no adequate substitutes for traditional TDM-based services that rely on ILEC-controlled facilities. Granite’s customers rely on traditional TDM-based business telephone service because of the benefits it provides, including the reliability that results from self-powered lines. Alternative forms of voice service, such as most managed VoIP offerings and fixed and mobile wireless services, are not line-powered and lack the reliability of traditional TDM-based business telephone service. Granite’s customers therefore do not regard these alternatives as substitutes for traditional TDM-based business telephone service. Furthermore, because traditional TDM is a low-revenue service, it is uneconomic for competitors like Granite to construct network facilities to provide low-bandwidth services. This is particularly true in rural areas. Granite and other competitors therefore must purchase traditional TDM-based business telephone services from ILECs because no provider other than the ILEC in its home territory has the physical infrastructure in place to provide traditional TDM to and from multi-location business customers’ locations.

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112 First Communications Decl. ¶ 11.
113 See Socket Decl. ¶ 46.
114 See Granite Decl. ¶¶ 9, 12-27.
116 See id.
Competitive providers have been able to use the market-opening mechanisms of Section 251(c) as they were intended by Congress, as a bridge to building out their own facilities, and thus promoting investment incentives. The Petition would blow up that bridge.

A. Congress Rejected an Automatic Sunset for Section 251(c), Recognizing the Importance of Maintaining Access to UNEs and Avoided-Cost Resale Until a Full Transition to Facilities-based Competition

Maintaining access to UNEs and discounted resale until providers have completed the transition to full facilities-based competition is consistent with congressional intent and the Telecommunications Act of 1996’s overarching goals. Congress enacted Section 251 “to foster development of competition for telecommunications services by allowing competitive LECs to use the incumbent LECs’ networks (through resale or unbundled network elements), rather than forcing the new market entrants to rely exclusively on their own facilities.” As the Commission has acknowledged, “Congress recognized that it might be inefficient or impossible for competitive LECs to duplicate the entire incumbent LEC telecommunications network to


enter a market.” Consequently, Congress “established several modes of possible market entry, including resale and UNEs, as well as full facilities deployment.”

The language and structure of the 1996 Act recognize the long, uncertain timeframe for transitioning to full facilities-based competition. “Where Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.” Importantly, Congress declined to establish an automatic sunset provision for Section 251(c), including its UNE and resale obligations, even as it established clear sunset clauses in other provisions within the 1996 Act. As Senator Larry Pressler, then-Chairman of the Senate Committee on Commerce, Science and Transportation and a principal author of the 1996 Act, explained, the problem with setting a “certain date” is that a competitor “ha[s] to use the other guy’s [i.e., the ILEC’s] wires and interconnections and unbundling of his system before [the competitor] can compete.” Similarly, when explaining the “basic thrust of the bill,” Senator Fritz Hollings, a key backer of the 1996 Act and the ranking minority member of the Senate Commerce Committee, stated, “Timing is everything. Telecommunications services should be

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119 TRO ¶ 36 n.116; see also S. Conf. Rep. No. 104-230, at 148, 142 Cong. Rec. H. 1078 (1996) (“This conference agreement recognizes that it is unlikely that competitors will have a fully redundant network in place when they initially offer local service, because the investment necessary is so significant.”).

120 TRO ¶ 36 n. 116


122 Compare 47 U.S.C. § 251(c) with 47 U.S.C. §§ 272(f), 274(g)(2), 543(c)(4).

deregulated after, not before, markets become competitive.” Congress’s rejection of a sunset for Section 251(c) suggests that it recognized the danger of prescribing precise, binding expiration dates for unbundling and resale without understanding the extent and the pace that competition would develop in different markets.

Instead of a rigid, nation-wide expiration date for Section 251(c)’s UNE and resale obligations, Congress directed the Commission to follow an impairment standard to determine which network elements to unbundle. As the Commission and courts have recognized, impairment requires a “granular analysis” of local telecommunications markets, including customer class, and geography. In particular, the Commission considers whether, for a reasonably efficient requesting carrier, “lack of access to an incumbent LEC network element poses a barrier or barriers to entry, including operational and economic barriers, that are likely to make entry into a market uneconomic.” The Commission focuses particularly on “(1) economies of scale; (2) sunk costs; (3) first-mover advantages; (4) absolute cost advantages; and (5) barriers within the control of the incumbent.” The impairment standard’s call for market-specific determinations implements Congress’s intent to maintain the market-opening provisions of Section 251(c) until there is actual evidence of competitive conditions in the relevant marketplace. Thus, the history and structure of Section 251(c) and the Commission’s

126 TRRO ¶ 10; United States Telecom Ass’n v. FCC, 359 F.3d 554, 571-572 (D.C. Cir. 2004).
127 TRRO ¶ 10.
128 Id.
decisions in the *TRO* and *TRRO Order* all support the Commission’s framework adopted in the *Qwest Phoenix Forbearance Order* to require granular market analysis when evaluating a petition to forbear from Section 251(c) unbundling requirements.

What is more, Congress designed avoided-cost rate regulation of Section 215(c)(4) as an efficient means of promoting competition that would remain in place even where competitors are no longer “impared” without access to unbundled elements. For example, in selecting the avoided-cost rate setting methodology which preserves ILEC profit margins when selling to wholesale customers, Congress ensured that the costs associated with indefinitely retaining Section 251(c)(4) resale are minimal. In addition, the scope of the statutory avoided-cost resale requirement is broad and specifies no duration. Section 251(c)(4) applies to “any” telecommunications services offered to retail customers, without qualification and without regard to the level of competition in the relevant market. In contrast to Section 251(c)(3) unbundling, there is no statutory requirement that the Commission conclude that competitors are impaired in the absence of avoided-cost resale. The logical inference is that Congress expected that the Section 251(c)(4) avoided-cost resale mandate would remain in place even where ILECs have been relieved of the obligation to provide access to UNEs. Thus, Congress expected that forbearance from Section 251(c)(4) would be appropriate only in rare circumstances.

**B. Access to UNEs and Discounted Resale Is Vital to Promoting Innovation and Deployment of Fiber Networks by Competitive and Incumbent Providers**

1. *The Petition Grossly Mischaracterizes the Role that UNEs and Avoided-Cost Resale Play in the Marketplace*

The Petition and its supporting economists’ paper mischaracterize the important functions that UNEs and avoided-cost resale continue to serve in promoting investment in facilities and innovation in service offerings. As explained above, competitive providers use UNEs in a variety of ways to provide voice and innovative data services to residential and business
customers, often in underserved rural and urban pockets, but also in denser metropolitan areas as a competitive force pushing the incumbents to improve their own technology, prices and offerings. USTelecom quotes a Commission order recognizing that “[u]nbundling rules that encourage competitors to deploy their own facilities in the long run will provide incentives for both incumbents and competitors to invest and innovate, and will allow the Commission and the states to reduce regulation once effective facilities-based competition develops.” However, the Petition ignores the mechanisms the Commission subsequently established in the TRO and TRRO to do that. Instead, the Petition and the economists’ report paint a simplistic and inaccurate picture of the role that UNEs play in the relevant markets. Understanding how competitive providers use the UNE loops also highlights the flawed assumptions of the Petition and its supporting economists’ paper.

First, copper facilities and TDM-based services continue to play a vital role in the delivery of communications services to residential, business, government, and nonprofit customers in large parts of the country. The Petition asserts that UNEs “today play a very minor and diminishing role” in the residential and business markets. As support, the Petition cites nation-wide totals for the number of UNE loops in use, as well as totals showing declining ILEC-owned switched-access voice and VoIP end users. These numbers gloss over important details on where and how competitive providers use UNEs to provide service, details that are


130 Petition at 15.

131 See id. at 15-18.
necessary for the Commission to consider in how forbearance would impact prices, consumer protection, and the public interest.\textsuperscript{132}

Geographic granularity is essential because the two million UNE loops cited in the Petition are not equally distributed about the country. As discussed above, competitive providers use UNEs in many underserved rural and urban areas that have no other competitive alternative, and in some cases no alternative at all including the ILEC. Thus, that the total number of UNEs constitute a relatively small percentage of the total number of fixed and mobile voice lines in the country does not provide any useful information about the actual geographic markets in which they are used.\textsuperscript{133} In many underserved areas, UNE loops and transport enable competitive providers to offer route diversity and redundancy to businesses and essential service providers that would otherwise not be available.\textsuperscript{134}

The Petition does not differentiate between UNEs used for voice services, for data services, or bundled services.\textsuperscript{135} As a result, the numbers cited by the Petition in support of its claim that there is robust competition likewise do not identify specific relevant product markets, and largely focus on voice service. However, as explained above, competitive providers use

\textsuperscript{132} See Comments Submitted on Behalf of the Public Utilities Commission of Ohio at 6-7, WC Docket No. 18-141 (filed Aug. 3, 2018) ("Ohio PUC Comments") ("The Ohio Commission submits that, a simple checklist approach will likely not be sufficient in determining whether a market is competitive.").

\textsuperscript{133} See Socket Decl. ¶ 10.

\textsuperscript{134} See IdeaTek Declaration ¶ 4; Mammoth Decl. ¶ 12; see also Letter from Jason B. Williams, Chief Executive Officer, Blackfoot Communications, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 18-141, at 2 (filed Aug. 2, 2018) ("Blackfoot Ex Parte") ("Having access to UNE loops enables Blackfoot to use its own fiber or fixed-wireless solution as the primary connection for one path and utilize a UNE loop connection as an alternative path [for hospital and bank customers].").

\textsuperscript{135} See Petition at 16-17.
UNE loops, subloops and transport for voice, data, and other services, to residential, small business, and enterprise customers, including other downstream service providers.

Second, the Petition completely ignores the critical role that unbundled dark fiber transport plays in a variety of downstream services. As Mammoth explains, it uses its own electronics attached to a single unbundled dark fiber between ILEC central offices to provide transport for thousands of customers including enterprise end users like a utility, a county government, school districts, and a college; and wireless and fiber-to-the-home internet service providers that serve residential and business users.136 Unbundled dark fiber provides an economical option to carry traffic from users served by remote (Tier 3) central offices, where there are no competitive transport providers, to central offices in denser areas, where competitive providers can then use their own networks or commercial transport services.137

Third, competitive providers use UNEs and resold circuits as inputs into their own services that are differentiated from ILEC and cable offerings in multiple ways that are valuable to customers. The economists’ paper supporting the Petition incorrectly assumes that the difference between the price of retail services and the price of UNE inputs used to provide those services.

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136 See Mammoth Declaration ¶ 11; see also Dialog Decl. ¶ 8; Digital West Decl. ¶ 10; GWI Decl. ¶ 5; Race Decl. ¶ 8.

137 See IdeaTek Decl. ¶ 4 (“We use dark fiber UNEs to connect from a more urban central office, where we can obtain critical wholesale broadband and transport services, to more rural unserved central offices.”); see also, e.g., Digital West Decl. ¶ 10 (“There are no competitive dark fiber or lit services between central offices so the only services available are the much more expensive ILEC lit services that would increase costs by a factor of 40 and eliminate the flexibility of easily increasing the speed of the dark fiber loops.”); GWI Decl. ¶ 13 (explaining that GWI uses UNE dark fiber to serve 1100 customers in 9 communities where “[t]here is no substitute dark fiber provider”).
services all constitute margin for competitive providers.\textsuperscript{138} Competitive providers that use UNEs must and do invest significant amounts in securing their own remote terminals and other equipment, as well as provisioning backhaul where unbundled transport is not available.\textsuperscript{139} As a result, the retail services offered by competitive providers include many value-added components ignored by the Petition and the economists’ paper.

In many cases the value added by competitive providers is the attention and resources devoted to meeting the specific needs of customers in niche markets whose requirements are not met by large incumbents, who tend to focus on low-cost mass market services and high margin enterprise customers.\textsuperscript{140} That leaves a segment of the customers, typically small and medium-size businesses and government entities, looking for alternatives to incumbent offerings. Competitive providers meet this need by spending relatively more resources on customer service and support, including designing the set of services that best suit the needs of customers that have multiple locations and that require features like increased security that are not available in mass market broadband products. For example, many of Allstream’s 60,000 predominately small and medium business customers have multiple locations across its 11-state service area.\textsuperscript{141} These customers include banks and healthcare providers that have additional security requirements, which Allstream would not be able to meet without investing in its own equipment

\textsuperscript{138} See Hal Singer and Kevin Caves, \textit{Assessing the Impact of Forbearance from 251(c)(3) on Consumers, Capital Investment, and Jobs} at 15, attached as Appendix B to Petition.

\textsuperscript{139} See, e.g., TPx Decl. ¶ 31 (monthly investment in 400 collocations in incumbent LEC central offices); Socket Decl. ¶¶ 16-17.

\textsuperscript{140} See Allstream Decl. ¶ 16; First Communications Decl. ¶ 11; GWI Decl. ¶ 9 (explaining that GWI’s “flexibility is unique in this market where the ILEC only offers three or four bandwidth options”); Access One Decl. ¶ 15 (“Custom-tailored solutions are one of our distinct advantages over ILEC competition.”). \textit{See also} Sappington Report at 11-12.

\textsuperscript{141} See Allstream Decl. ¶ 2.
to attach to unbundled copper pairs.\textsuperscript{142} Allstream and similar providers are not simply using UNEs to obtain higher margins and compete with ILECs on price, but are offering differentiated services to customers that ILECs have little interest in serving.\textsuperscript{143} In Maine, GWI is able to use UNEs in addition to its own fiber network to offer customers customized Ethernet services, while the incumbent provider offers only 3 or 4 bandwidth options, which results in customers being forced to purchase more bandwidth than they need.\textsuperscript{144}

Fourth, the Petition and its supporting paper compound the erroneous assumption about UNE margins by also assuming that competitive providers expect to rely on UNEs indefinitely. But given the potential for copper retirement, competitive providers do not, and cannot, presume the perpetual availability of UNEs as a less expensive substitute.\textsuperscript{145} UNEs provide a stepping stone for competitive providers to incrementally build out their own fiber networks before the copper networks are retired by ILECs and replaced with fiber. The copper retirement and network replacement by ILECs provide a natural transition away from UNEs that maintains a sense of urgency among competitive providers to deploy their own networks sooner.\textsuperscript{146} Indeed, that pressure on competitive providers to construct their own fiber networks was cited by the

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\textsuperscript{142} Id. ¶ 15; see also Dialog Telecom Decl. ¶ 9.
\textsuperscript{143} See, e.g., Bullseye Decl. ¶ 5 (“Bullseye has… invested in the creation of customer portal services, software and tools that enable customers to order and change services, provide order status and service performance including business analytics/reporting.”).
\textsuperscript{144} GWI Decl. ¶ 11.
\textsuperscript{145} Sappington Report at 16.
\textsuperscript{146} Socket Decl. at ¶¶ 58-60; see also Sappington Report at 15-16; Brattle UNE Decl. ¶¶ 8-9, 11-18.
\end{flushleft}
Commission as one rationale for its decision not to require unbundling of ILEC mass market fiber loops.  

It is also critical to understand how competitive providers rely on avoided-cost resale, an issue that USTelecom addresses in only the most superficial manner. To begin with, the Petition is bereft of factual support for and analysis of USTelecom’s claim that competition renders Section 251(c)(4) resale unnecessary. The small amount of data offered by USTelecom in support of its request for forbearance from Section 251(c)(4) resale is so highly aggregated that it reveals nothing about the level of competition in any product or geographic market. And USTelecom’s Petition says nothing about the harm that would befall customers that continue to utilize resold TDM-based business telephone services.

In fact, there is significant demand for TDM-based services available through avoided-cost resale. For example, Granite focuses on the provision of seamless communications services, including traditional TDM, to businesses with multiple locations across multiple ILEC territories that demand reliable connectivity, but not large amounts of bandwidth, at each individual location. Such customers include retailers, restaurants, hospitality companies, real estate companies, healthcare providers, banks and financial service companies, public utilities, non-profit organizations, and governmental agencies.

147 See TRO ¶ 272
148 See Motion for Summary Denial at 21.
149 See id.
150 Small businesses like neighborhood shops with one or only a few locations that do not demand large amounts of bandwidth at each location are equally dependent on traditional TDM. See Granite Decl. ¶¶ 2, 8
Nothing illustrates the continuing importance of traditional TDM better than its use by important governmental and quasi-governmental institutions. A recent letter from David Redl, Assistant Secretary for Communications and Information for NTIA, to Chairman Pai emphasizes the reliance of government agencies on traditional TDM. Assistant Secretary Redl reiterated the budget, procurement, and other challenges that government customers face in connection with transitioning strategic government applications that use legacy services to alternative next-generation services.151 He cautioned that discontinuance of services provided over copper networks could place federal departments and agencies in the untenable position of losing access to critical national security and public safety communications.152

Resale-based competitors’ customers continue to rely on traditional TDM-based business telephone service because of the unique benefits it provides. First, traditional TDM provides customers with reliability because traditional TDM lines are self-powered, and therefore continue to operate even in the event of power outages, without the need for additional fail-safes such as generators or batteries.153 The provision of reliable connectivity has special importance for those businesses that rely on TDM to ensure the operation of critical systems such as medical alerts, fire/sprinkler monitoring, gas pipeline monitoring, bank vault or burglar alarms, and elevators that require reliable back-up systems for unexpected failures, even where VoIP services provided over managed networks (i.e., not over the public internet) are available.154 Property

151 See Letter from David J. Redl, Assistant Secretary for Communications and Information, NTIA, to Ajit Pai, Chairman, FCC, WC Docket No. 17-84 (July 19, 2018) (“July 19 NTIA Letter”).
152 Id. at 1.
153 Granite Decl. ¶ 15.
154 Id. ¶¶ 18-19.
management companies, for example, require reliable fire/sprinkler, burglar, and elevator alarms across the wide range of buildings they manage,\(^\text{155}\) while banks require the self-powering capabilities of traditional TDM to ensure that bank vaults remain secure, and that critical banking operations such as such as clearinghouses, ATMs, and electronic transfer capabilities continue in the event of a power outage.\(^\text{156}\)

Second, traditional TDM is essential to businesses, government, and public safety institutions located in widespread and rural locations that require reliable, low bandwidth lines. Certain government agencies have thousands of locations across the country, many located in rural areas.\(^\text{157}\) Other agencies must operate essential applications and services requiring reliability, availability, and compatibility that can only be achieved by the use of traditional TDM.\(^\text{158}\) The Federal Aviation Administration, for example, requires traditional TDM to operate its flight monitoring system, the National Airspace System (“NAS”), and to ensure safe and efficient travel in the United States and over large portions of the world’s oceans.\(^\text{159}\)

2. Access to UNEs, Including Loops and Interoffice Transport, Promotes Investment and Innovation by Competitive Providers

The Petition presents a completely backwards description of UNEs impact on investment and innovation, asserting that UNE and discounted wholesale rates “distort investment decisions.”\(^\text{160}\) In reality, access to UNEs on ILECs’ copper networks prompts competitive

\(^\text{155}\) Id. ¶ 18.
\(^\text{156}\) Id. ¶ 19.
\(^\text{157}\) Id. ¶ 23.
\(^\text{158}\) Id. ¶ 26.
\(^\text{159}\) Id. ¶ 26.
\(^\text{160}\) Petition at 26.
providers to invest in equipment and other infrastructure to provide service, and enables them to finance their own fiber network build over time.\footnote{See, e.g., Uniti Ex Parte at 2; Blackfoot Ex Parte at 1-2; ACD Decl. ¶ 7 (“When ACD commenced providing telecommunications service in Michigan in 2000, 100% of its connectivity with customers was dependent on UNEs.” After acquiring a density of customers, ACD presently “serves approximately 25% of its customers with its own fiber optic network.”); Sonic Decl. ¶ 9.} Moreover, with their initial investment in upgraded switches and other equipment, competitive providers use UNEs to offer services that are not just more competitively priced than the ILEC alternative, but often have added functionality or other attractive terms not available at all from the incumbent.

First, as was intended by Congress in passing the 1996 Act, UNEs have enabled competitive providers to gain a foothold in markets otherwise dominated by ILECs and incrementally build out their own networks. The ability to use DS0 and DS1 UNE loops and subloops provides a way to connect and serve customers in a timely manner. Rather than waiting for the slowest and most resource-intensive portion of network deployment—the last-mile fiber cables—competitive providers can invest in collocating their equipment in ILEC central offices or in remote terminals and begin serving customers. The revenue generated by these customers helps competitive providers finance the costly expansion of fiber networks to reach the customers’ premises. Moreover, securing customers early using UNEs gives providers an opportunity to earn customer loyalty, which reduces the risk of incurring the significant sunk costs needed to deploy fiber to the customers’ premises.\footnote{See Sappington Report at 9 (“Methods of market entry, such as UNEs and resale, that allow a competitor to build a customer base in a given area before incurring the large fixed, sunk costs of serving the area lower barriers to investment in last-mile fiber networks.”); see also TRO, 18 FCC Rcd. at 17122-23 ¶ 237 (“A carrier will not deploy mass market loops unless it knows in advance that it will have customers that will generate sufficient revenues to allow it to recover its sunk loop investment.”).} For Gorge Networks, which operates

\footnote{See, e.g., Uniti Ex Parte at 2; Blackfoot Ex Parte at 1-2; ACD Decl. ¶ 7 (“When ACD commenced providing telecommunications service in Michigan in 2000, 100% of its connectivity with customers was dependent on UNEs.” After acquiring a density of customers, ACD presently “serves approximately 25% of its customers with its own fiber optic network.”); Sonic Decl. ¶ 9.}
in rural parts of Oregon and Washington, UNE loops are in many remote communities the only economically viable way to provide end users with broadband service.163 Gorge Networks uses UNE loops, subloops, and transport from ILEC remote terminals to grow its customer base, which then supports the build-out of fiber facilities in Hood River, Oregon and Goldendale, Washington.164 TelNet has invested millions in its own fiber network, and serves approximately 40% of its customers with its own facilities after transitioning those customers from UNEs.165 Likewise, Digital West has used revenue from customers served in part through UNEs to fund the deployment of its own fiber network, which currently reaches 20% of its customers as Digital West continues to invest heavily in its network.166

In some cases, competitive providers have used UNEs to be the first to deploy fiber networks in smaller communities otherwise ignored by both the ILEC and the incumbent cable provider. IdeaTek was able to use its access to unbundled dark fiber transport to provide backhaul for the fiber-to-the-home network it built in a small Kansas community outside of Wichita.167 Given the size of the customer base, IdeaTek would not have been able to make a business case to build a FTTH network without the availability of unbundled transport.168 Socket, which focuses on markets in rural Missouri, uses UNEs to jump start fiber deployment in

163 See Gorge Networks Decl. ¶ 8.
164 See id. ¶ 6 (“UNEs uniquely assist our ability to build fiber facilities because . . . unlike business data services, we do not need to make extended term commitments beyond the period needed to build fiber, which lowers the effective cost of fiber deployment.”).
165 See TelNet Decl. ¶¶ 4-5.
166 See Digital West Decl. ¶ 8.
168 See id.
small towns like Fayette, Missouri. The residential customers in Fayette “had no choice for landline broadband and voice service until Socket deployed fiber facilities in the town,” despite having three middle-mile fiber transport carriers. By using unbundled DS1 EELs to first build a customer base among SMBs in Fayette, Socket was able to deploy a fiber network and expand its service to residential customers. Similarly, Race has been able deploy fiber to over 15,000 homes and businesses in unserved and underserved rural communities, and to provide services including emergency services, by using unbundled DS1, DS3, and dark fiber transport.

Second, competitive providers also use UNEs to offer innovative services and customer-oriented terms that create a differentiated product from what is offered by the ILEC. As Socket explains, DS0 copper loops are valuable because they “do not include ILEC electronics that determine what services can be offered over the loop,” thus enabling a competitive provider to “deploy its own electronics on either end of the DS0 loop” and “customize and control the services provided over the loop, including service quality and security.” As previously discussed, using its own electronics, Sonic offers speeds faster that AT&T’s in nearly all of the census blocks Sonic serves. Unbundled DS0 and DS1 loops also enable competitive providers to use pair bonding to multiply the speeds that they can offer customers. Likewise, First Communications uses UNE loops and transport as inputs into their own bundles of voice, data,

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169 Socket Decl. ¶ 25.
170 Id.
171 Id. ¶ 26.
172 Race Decl. ¶¶ 5-8.
173 Socket Decl. ¶ 47; see also Sonic Decl. ¶ 14; Virginia Global Decl. ¶ 8.
174 Brattle UNE Decl. ¶ 18 and Figure 2.
175 See, e.g., Sonic Decl. ¶¶ 4-5, 12; TPx Decl. ¶¶ 10, 12.
and managed services that fit the specific needs of business customers.176 Competitive providers also use unbundled loops together with their own facilities to serve niche customers that are more likely to be located in underserved areas. For example, Access One serves customers which have locations in underserved urban areas and would otherwise have no choice in communications.177

Third, access to UNEs also promotes competitive fiber deployment by enabling competitive providers to secure contracts with business and government customers that have multiple locations, including remote locations that are not on the providers’ own network. Once they secure the customer contract, competitive providers can overbuild fiber to the customer’s principal or headquarters locations, which are more likely to be located in denser metropolitan areas or office parks, while using UNEs or resold services to also cover remote offices where it is not economically practicable to deploy fiber.178 Competitive providers can use the multilocation customer accounts as a roadmap to expanding their own networks. UNEs are essential for this deployment method. Because multilocation customers typically prefer to use a single service provider, a competitive provider would not be able to compete against ILECs’ ubiquitous presence without affordable last-mile access to the more far flung locations. Access to unbundled EELs, for example, enables Socket to connect multiple remote clinic locations of a health care customer that has 90 locations throughout Missouri.179 Once the customer base was established, Socket gained greater assurance that it could profitably deploy a fiber network,

176 See First Communications Decl. ¶ 8.
177 See Access One Decl. ¶ 14.
179 See Socket Decl. ¶ 37.
transition its UNE-based customers onto fiber, and gain additional customers as it expanded its fiber network.\textsuperscript{180}

The increased investment reflects the transition of customers initially served by UNEs to their own facilities and, as Professor Sappington notes, the “ongoing race between ILECs and CLECs to deploy fiber.”\textsuperscript{181} This practice of overbuilding fiber to areas with existing customers should be familiar to USTelecom because that is precisely the deployment method used by the ILECs. Where ILECs have expanded their own fiber networks through construction rather than acquisition, they focused on their own respective incumbent footprints with secure customer bases.\textsuperscript{182} Conversely, the BDS data showed that ILECs and their affiliated CLECs are \textit{not} building fiber to a significant majority (or even substantial minority) of business locations outside of their respective territories.\textsuperscript{183} Thus, far from dampening investment incentives, UNE access brings at least some competitive parity to the race to upgrade to fiber networks between incumbents and competitive providers.

3. \textit{Forbearance Would Reduce ILEC Incentives to Upgrade Their Networks and Service Offerings}

Just as the Petition presents an upside-down picture of the effect of the unbundling rules on CLECs’ investment incentives, it similarly inverts the effects those rules have on \textit{ILECs’} incentives. The Petition claims that unbundling causes incumbents to divert resources that would

\begin{itemize}
\item \textsuperscript{180} \textit{Id.} \\
\item \textsuperscript{181} Sappington Report at 15. \\
\item \textsuperscript{182} See Reply Comments of INCOMPAS, WC Docket No. 05-25, RM-10593, at 10 (filed Feb. 19, 2016) (\textit{“INCOMPAS 2/19/16 BDS Reply Comments”}); \textit{id.} at 13 & n. 50 (citing reports of ILECs’ fiber buildout in their incumbent footprints). \\
\item \textsuperscript{183} See Rysman White Paper at Table 4.
\end{itemize}
otherwise be used to invest in fiber networks, and otherwise reduces their incentive to invest.\textsuperscript{184}

In reality, the unbundling rules developed by the Commission considered the need to balance competitive access with investment incentives, and those rules have reinforced ILEC investment incentives by subjecting incumbents to actual competitive pressure in markets in which they otherwise would have no incentive to deploy advanced networks and services.

As described above, competitive providers use UNEs both as a bridge to building their own fiber networks and as an input into their differentiated service offerings, especially in underserved areas. Competition from these providers has pushed, and will continue to push, incumbents to upgrade their own networks and to match or beat the service offerings from their competitors.\textsuperscript{185} This is the fundamental mechanism of markets that USTelecom seeks to halt through the forbearance requested in the Petition. If incumbents can eliminate access to UNEs, it would significantly reduce if not entirely remove the ability of competitive providers to build out their own fiber facilities. The Small Business Administration expressed this exact concern in a recent letter to the Commission, explaining that UNEs not only support CLEC fiber deployment,

\textsuperscript{184} See Petition at 23, 25.

\textsuperscript{185} See Sappington Report at 16 (“As CLECs expand their fiber networks to serve customers in these regions, ILECs often will feel pressured to follow suit. This fact has been identified in empirical research.”); see also Digital West Decl. ¶ 13 (“Our entry utilizing UNEs has pushed other broadband providers to upgrade their services. The local cable company, Charter/Spectrum has recently upgraded speeds in San Luis Obispo County and AT&T has begun building some limited fiber to high end homes in San Luis Obispo.”); Mammoth ¶ 2 (“Within two years of us offering service in Ranchester, Wyoming, CenturyLink and the cable company rolled out their own broadband offerings.”); Race Decl. ¶ 10 (“We have experienced that upon our entry into rural markets using existing middle mile systems and UNEs, existing providers have been forced to upgrade their networks to keep a significant market share.”); Sonic Decl. ¶ 13.
but also “provide competitive pressure for incumbents to likewise invest in new fiber
deployment and network upgrades.”¹⁸⁶

There is no reason for the Commission to believe that, if an ILEC has not yet upgraded its
network to fiber in the face of competition, it would suddenly do so once that competition has
been muted or stamped out. As noted above, Sonic’s drive to be the first to build a widespread
fiber-to-the-home network to serve existing UNE-based customers in San Francisco was
followed by AT&T’s own fiber upgrades.¹⁸⁷ Nor is there any reason for the Commission to
believe the claim that but for the “administrative and compliance costs” of the unbundling rules,
ILECs would be investing to deploy fiber in the communities served by competitive providers
using UNEs. Indeed, upgrading to fiber networks provides ILECs with the opportunity to retire
their legacy copper facilities and shed many of these costs. If anything, wholesale elimination of
unbundling and resale obligations now through forbearance would dampen ILEC incentives.¹⁸⁸

C. Nation-Wide Forbearance from Unbundling Obligations Would Be
Disruptive and Would Leave Many Underserved Areas Without Any
Provider of Many Advanced Services

The Petition incorrectly asserts that forbearance “would not disrupt the marketplace”
because it ignores the importance of geographic markets and misunderstands the critical role that

¹⁸⁶ Letter from Major L. Clark, Acting Chief Counsel, Office of Advocacy, U.S. Small Business
Administration, and Jamie Belcore Saloom, Assistant Chief Counsel, Office of Advocacy, U.S. Small Business Administration, to Marlene H. Dortch, Secretary, FCC, at 3, CG Docket
Nos. 18-152 & 02-278, WC Docket Nos. 17-84 & 18-141, GN Docket No. 17-258, WT

¹⁸⁷ See Sonic Decl. ¶ 13.

¹⁸⁸ See Sappington Report at 17 (explaining that forbearance end ILECs’ unbundling obligation
“even if they choose not to fully convert their copper networks to fiber,” and thus “reduce
fiber-based broadband infrastructure investment by removing a potentially strong incentive
for such investment by ILECs”).
UNEs play in many underserved communities. In fact, nation-wide forbearance would be highly disruptive to the progress of fiber network buildouts and delay the availability of upgraded networks and services to customers. It would also leave many customers, especially in rural communities, without any providers of broadband and other advanced services.

Nation-wide forbearance and the prospect of losing UNE access everywhere would throw providers’ deployment plans into chaos. The resource limitations that currently create bottlenecks for deployment—qualified construction crews, local permitting processes, utility and ILEC pole owner make-ready work, and underground utility locates, among others—would be even further stretched if competitive providers around the country face imminent disconnection. Given the limited resources and capital, competitive providers will necessarily need to triage among existing markets in deciding where to construct their own facilities. As a result, the markets with lowest revenue potential, which are already likely to be underserved rural and urban areas, will more likely see competitive providers exit.

In some of these underserved markets, competitive providers that use UNEs are customers’ only choice for broadband and other advanced services. Some of these markets are remote rural locations that do not have cable providers or ILEC broadband service, where the competitive provider is the only broadband provider other than satellite. Virginia Global provides DSL broadband to mostly rural residential customers in Rockbridge County, Virginia, using unbundled subloops and DS0s and DS1 loops and transport, frequently where there is no

189 See GWI Decl. ¶ 10 (“The loss of access to UNEs would affect GWI’s ability to continue to provide service. Specifically, we would pull out of roughly 30% of the approximately 60 markets we serve. All of the markets we would exit are rural markets.”); Mammoth Decl. ¶ 13.

190 See First Communications ¶ 12; InfoStructure Decl. ¶ 8.
other provider of broadband service. By using its own equipment with the unbundled copper pairs, Virginia Global offers residential broadband speeds of up to 25Mbps / 10Mbps for download/upload. Because there is no commercial alternative to unbundled DS0 copper loops, if forbearance were granted, Virginia Global would end service to some customers who have no other broadband option. Similarly, the loss of unbundled transport would result in discontinuing service.

Other rural communities face the same prospect of losing broadband service entirely. In Douglas County, Oregon, the local competitive provider, Douglas FastNet, uses UNE subloops to provide service to approximately 3,000 customers, many of whom either do not have access to broadband service from any other provider besides satellite providers, or have access to much slower ILEC broadband provided through T1-fed DSLAMs. Digital West also relies on UNE loops to provide broadband service through remote terminals to rural parts of San Luis Obispo County where DSL service is not available from the ILEC. Similarly, by using UNE dark fiber transport, IdeaTek offers the only broadband service available in rural communities in south central Kansas in the incumbent territories of AT&T and CenturyLink. In rural areas, DS1

See Virginia Global Decl. ¶ 2.
See id. ¶ 3.
Id. ¶ 12.
See id. ¶ 11.
See Douglas FastNet Decl. ¶ 5.
See Digital West Decl. ¶ 2.
See IdeaTek Decl. ¶ 2. The communities in Kansas where no ILEC DSL services are available include Bentley (AT&T), Andale (AT&T), Mt. Hope (AT&T), and Yoder (CenturyLink), as well as unincorporated parts of Reno, Sedgwick, and McPherson counties.
UNEs are also critical to provide service when the loop is too long to permit service over xDSL-conditioned DS0 loop copper.

The loss of service resulting from nation-wide forbearance will also affect business and other non-residential customers. Competitive providers currently use UNEs to provide affordable services to customers that require more robust reliable services than offered to mass market customers. For example, Socket Communications is the only provider of ISDN-PRI services in part of Missouri, and is able to offer these services by using unbundled DS1 loops and DS1 EELs. ISDN-PRI services enable customers that require multiple, separately identifiable voice and data transmissions that are associated with specific locations or departments at a single physical address, such as an apartment building or dorm. Having specific locations associated with a phone number is critical in a campus environment because law enforcement and other emergency responders need to be able to identify the caller. Local ISDN-PRI also enables fail-over service to route calls between an emergency responder’s remote location and its headquarters site in the event the remote site served by Socket loses connectivity. If Socket loses access to UNEs, customers would need to incur significant costs to replace its existing equipment in order to have the same functionality.

198 Socket Decl. ¶ 11.

199 Id.

200 See id.

201 Id.

202 See id.
D. US Telecom’s Modified Transition Plan Does Not Ameliorate the Anti-Competitive, Harmful Impacts of Forbearance on Consumers

On June 21, 2018, US Telecom modified its proposal for a transition plan to accompany grant of forbearance. That proposal does not ameliorate the fundamental anti-competitive and anti-consumer problems that require denial of forbearance from Sections 251(c)(3) and (4) and Section 272(e)(1). Although USTelecom would now not institute any automatic price increases for UNEs until February 4, 2021, UNEs could only be used to serve the existing embedded base, with no new UNE orders after the effective date.\(^{203}\) Significantly, on a flash-cut basis, this truncates CLECs’ ability to utilize UNEs as a bridge to future fiber deployments. The cost of customers changing or adding locations, or of adding new customers, would increase dramatically. The CLECs entry path for building new last-mile fiber would become significantly steeper.

Moreover, CLECs would abruptly lose their sources for bare copper loops other than for their embedded base. This means that CLECs could not utilize existing investment in backhaul and EoC, VDSL or ADSL2+ equipment to expand the number of customers served from existing collocations. This also means that in addition to cutting off CLECs’ ability to build a customer base sufficient to sustain a network build, ILECs and, to the extent they are present, cable incumbents, would no longer face a competitive threat – and thus an impetus to upgrade services, quality, and support – from partial facilities-based CLECs.

On a more fundamental level, any “transition plan” that imposes a nation-wide cutoff date would invariably harm competition and consumers with no corresponding benefit. As noted

\(^{203}\) Letter from Jonathan Banks, USTelecom et al., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 18-141, at 1-2 (filed June 21, 2018).

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above, the same, finite supply of capital and engineering and construction labor would be stretched past the breaking point by every provider that currently uses UNEs and avoided-cost resale, as well as the incumbent that would have to try to accelerate their deployment plans.\footnote{204}

Moreover, cutting off UNE access at the same time would also likely overwhelm the provisioning times of special access alternatives where they are available, further forcing some competitive providers from their markets. It would take competitive providers years to overbuild their own facilities to transition customers from the embedded base, much longer than providers can justifiably sustain their operations in many markets. Thus, even with its modified transition plan, USTelecom’s Petition effectively snuffs out existing competitors immediately. The end result will be higher rates for consumers, and fewer choices of carriers to service hard-to serve markets, whether rural or specialized.

\section{IV. Nation-Wide Forbearance Represents a Radical and Unwarranted Departure from the Commission’s Competition Findings in the BDS Order}

The Commission made sweeping deregulatory changes in the \textit{BDS Order} based on the prediction that, despite the highly concentrated markets, full facilities-based competition will arrive in the medium term (over the next three to five years) sufficient to discipline ILEC prices and to meet demand.\footnote{205} While the undersigned disagree fundamentally with the Commission’s premises and reasoning in reaching this conclusion, this Petition goes beyond even the (rosy) predictions of the \textit{BDS Order}. The Petition would assume that unbundling is unnecessary even in markets that the \textit{BDS Order} concluded were non-competitive. Furthermore, the \textit{BDS Order} itself acknowledged that “UNEs, where available allow competitive providers to effectively

\footnote{204} See \textit{supra} Section III.D.  
\footnote{205} \textit{BDS Order} § 13 (2017).
compete in lower bandwidth services, and are particularly close substitutes for DS1s and DS3s.\textsuperscript{206} The Commission focused not only on UNE DS1s and DS3s, but also UNE copper loops, including when used to provide Ethernet-over-Copper.\textsuperscript{207} Moreover, granting the forbearance requested in the Petition would undermine the Commission’s predictions in the \textit{BDS Order} and further frustrate the Commission’s mission of promoting competition and the deployment of advanced networks. Accordingly, for BDS services, it would be premature to grant the forbearance requested in the Petition.

\textbf{A. Forbearance from Unbundling Requirements Would be Premature Based on the BDS Order’s Predicted Timeframe for the Emergence of Competitive Providers}

The \textit{BDS Order} adopted a competitive market test that led to the elimination of price cap and tariffing protections in more than 91 percent of locations with BDS demand, even though over 77 percent of locations are connected only by ILEC-owned facilities.\textsuperscript{208} Among locations with bandwidth demand of below 100 Mbps, 84 percent of locations presently do not have any competitive provider offering service.\textsuperscript{209} The Commission concluded that the predicted emergence of facilities-based providers capable of serving customers meant that continued price cap regulations are not necessary to ensure just and reasonable rates.\textsuperscript{210} Under the competitive market test, a location with BDS demand is deemed to be competitive with respect to DS1 and DS3 channel terminations if it is located in a county in which either one of two conditions is met:

\begin{itemize}
  \item \textit{BDS Order} \¶¶ 160-62.
\end{itemize}

\textsuperscript{206} \textit{Id.} \¶ 32.
\textsuperscript{207} \textit{Id.} \¶ 33 n. 104.
\textsuperscript{208} Rysman White Paper at Table 7.
\textsuperscript{209} \textit{See supra} n.7.
\textsuperscript{210} \textit{BDS Order} \¶¶ 160-62.
either (1) 50 percent of the locations with BDS demand in that county are within a half mile of a location served by a competitive provider, or (2) 75 percent of the census blocks in that county have a cable provider present based on the Commission’s Form 477 data.²¹¹ Critically, the Commission’s test does not require a facilities-based BDS provider to be offering service to any particular customer location, or to even have facilities capable of supplying service connected to that location within a few months or even a year or more. Moreover, the half-mile test rested on CLEC statements that they might, under the right circumstances with sufficiently low entry barriers, build out up to a half-mile distance, not that barriers to build out were widely expected to be low within a half mile.²¹²

Rather, the test rests on a (likely overly optimistic) prediction about the ability of nearby providers to compete with the incumbent with the sole connection to a customer location at some point three to five years in the future, since the test “assesses the availability of actual and likely competitive options.”²¹³ The Commission recognized that in the counties it has deemed

²¹¹ Id. ¶ 86.

²¹² See Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services, WC Docket No. 05-25, RM-10593, ¶ 40 (filed Jan. 27, 2016) (explaining that due to the cost of building even to one half-mile away in the absence of substantial revenue potential, “nearby fiber providers would be expected to offer less of a competitive constraint than providers already serving a building with their own facilities, and, in general, are better seen as potential entrants than as ‘rapid entrants’”); see also Declaration of John Merriman on Behalf of Level 3 Communications, LLC, ¶ 6 filed as an Appendix to Comments of Birch, EarthLink, and Level 3, WC Docket Nos. 16-143, 15-247, & 05-25, RM-10593 (June 28, 2016) (“[I]t is infrequently the case that Level 3 can deploy a new fiber connection to serve a customer demanding only 100 Mbps of bandwidth or below.”); Third Declaration of Matthew J. Loch, appended as Attachment A to Reply Comments of TDS Metrocom, LLC, WC Docket No. 05-25, RM-10593, ¶ 13 (filed Feb. 19, 2016) (“[A] fiber lateral build to a customer located 100 to 1,000 feet and beyond from the nearest splice point 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.”).

²¹³ BDS Order ¶ 97.
competitive, “some end users may not have viable alternatives to the incumbent LEC’s DS1 and DS3 end user channel terminations services and other special access services within” the “near-term.” Nonetheless, the Commission concluded that “even in these areas, we believe tariffing may reduce incentives for competitive entry and ultimately inhibit growth in the market and competition over the longer term.”

Regardless of whether or not the Commission’s prediction is reasonable, it is indisputable that full facilities-based competition is the exception. The Petition glosses over the predictive nature of the BDS Order’s competition finding, and thus presents an inaccurate account of the state of competition. The Petition has presented no evidence that the Commission’s prediction has been proven accurate so far, much less that the pace of facilities-based entry has accelerated to justify granting forbearance now. Moreover, as discussed above, the Petition ignores the role that UNEs play as a bridge to the deployment of alternative full facilities-based fiber networks. It is premature for the Commission to dismantle the competition-promoting provisions in the 1996 Act without any confirmation of the actual emergence of facilities-based competition.

Finally, the Petition’s request for blanket, nation-wide forbearance from unbundling and discounted resale obligations is inconsistent with the Commission’s own finding that many counties are not competitive even under the BDS Order’s competitive market test. For these

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214 Id. ¶ 162. The Commission also declined to reclassify counties that were subject to Phase 2 pricing flexibility as “non-competitive” even when they did not meet either prong of the competitive market test. Those areas lack even the prediction of competitive choice within three to five years. See id. ¶ 164.

215 Id. ¶ 162.

216 See supra Section III.B.2.
counties, the Commission concluded that even in the medium term of up to five years, there is unlikely to be sufficient facilities-based competition to ensure that prices would be just and reasonable. The Petition offers no explanation for why the competitive landscape in these counties is so different now, barely more than a year later, that the Commission should reverse the findings of the *BDS Order* and deem there to be sufficient competition to justify forbearance.

**B. Forbearance Would Undermine the *BDS Order*’s Prediction of Competition**

Granting the forbearance requested in the Petition would not only be premature given the Commission’s own prediction about the timeframe for competition, it would also undermine the likelihood of competitive entry. If ILECs were unconstrained from increasing UNE prices, or eliminating UNEs altogether, the ILECs could force providers into much more expensive business data services. To mitigate the effect of price increases, end users would be driven into multiyear plans to obtain “discounts” on unrealistically high rack rates. This raises the cost of building alternative loop facilities because the CLEC must include the cost of the additional volume and term commitment – and any associated penalties for early termination – as part of its deployment costs. By raising rivals’ costs, forbearance harms consumers by raising the prices they will face.

The *BDS Order*’s prediction of competitive entry is based on the premise that providers are willing and able to extend their existing networks to meet demand.\(^{217}\) As discussed above, this is precisely what the unbundling and discounted resale requirements promote in the marketplace. Access to these inputs helps solve the chicken-and-egg problem of network

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\(^{217}\) *BDS Order* ¶ 119 (stating that “providers of BDS are commonly willing to extend their existing network . . . to meet demand,” and “assum[ing] . . . that a cable company competes for any BDS demand, or will do so within a few years”).

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economics by enabling competitive providers to attract a base of loyal customers and generate revenue to finance costly network expansion before undertaking the expansion to end user locations.  

Granting the forbearance requested by USTelecom would deal a double blow to the Commission’s goal of promoting facilities-based competition. First, it would deprive competitive providers of the customer-driven path to deployment of loop facilities to supplement their backhaul and network electronics deployment. As discussed above, competitive providers that use UNEs already have an economic incentive to invest in their own advanced fiber networks, and face strong competitive pressure to do so before the ILECs retire their copper networks. Eliminating access to UNEs prior to network retirement hamstrings competitive providers’ ability to build out fiber networks, and thus also removes the competitive pressure on the ILEC to do so.

Second, and in direct conflict to the BDS Order’s justification for its predictions, forbearance would increase the incremental costs to competitive providers of investing in their own networks to be able to serve additional customers, which in turn reduces their incentive and ability to build out their own networks. The BDS Order predicted that a competitive provider would be willing to make the network investments necessary to compete with the incumbent provider “so long as they at least recover the incremental cost of extending supply to any

\footnote{\textit{Id.} ¶ 52 (“Competitive LECs rarely build on speculation and instead prefer to have a customer in place before undertaking the costs associated with buildouts.”). The BDS Order acknowledges that even nearby providers would still build if “the cost of meeting demand within one-half mile, including the costs of network extension and customer connection, is usually less than the present value of expected net revenues that buildout to that location will entail.” \textit{Id.} ¶ 119. \textit{See also} Sappington Report at 8, 14-15.}
For the vast majority of customer locations with demand, the data in the BDS proceeding show that the ILEC is the only facilities-based provider currently offering service. Forbearance will dramatically increase the cost to the inputs that competitive providers need to reach these customers. For example, one competitive provider has found that switching from unbundled EEL mileage to special access mile would increases per-mile costs from under $2 to as much as $37. Another competitive provider found that the DS1 special access service requires a three-year minimum commitment, and even that rate would be 140% to 189% higher than the price of its current DS1 UNE. Faced with much higher last-mile costs, competitive providers are less likely and able to make incremental investments in the other facilities and infrastructure—collocated electronics, middle mile fiber, sales and customer service staff—necessary to expand their geographic reach.

Moreover, as commenters have explained in the BDS proceeding, obtaining discounts off of the even higher ILEC “rack” rates for Ethernet services requires multiyear contracts. These contracts also effectively raise the incremental cost to a competitive provider of extending its

219 BDS Order ¶ 123.
220 See Rysman White Paper at Table 7.
221 See First Communications Decl. ¶ 12.
222 Socket Decl. ¶¶ 51-53; see also Digital West Decl. ¶ 11 (“UNE DS-1 is available for $70.00 per month and the equivalent special access service is $330.00 per month.”).
223 See Comments of Windstream Services, LLC, WC Docket Nos. 16-143 and 05-25, RM-10593 (filed June 28, 2016) (comparing AT&T “rack” rate of $678 per month for 2 Mbps on a 36-month term against AT&T rate of $126 per month for DS1 service on a 36-month term); see also Reply Comments of AT&T Inc., WC Docket Nos. 16-143, 15-247, 05-25, RM-10593, at 27 n.87 (filed Aug. 9, 2016) (“[T]he actual rates paid by U.S. customers are generally negotiated at discounted levels dramatically below those in the service guides.”); id. at 60 (“[W]holesale customers generally negotiate prices well below those listed in the Guidebook.”).
facilities to a customer location because it must absorb the cost for the entire term of the contract (or the early termination penalty) in order to transition the customer from the ILEC’s facilities onto its own last-mile network. In contrast, the flexibility of UNEs enable competitors to transition existing customers onto their own networks without paying an economic penalty. Forbearance thus will frustrate the BDS Order’s competitive prediction by increasing the incremental costs of investing in competitive infrastructure.

V. USTELECOM'S PETITION FAILS TO MEET THE STATUTORY SHOWING FOR FORBEARANCE UNDER SECTION 10 OF THE COMMUNICATIONS ACT

Section 10 of the Communications Act authorizes the Commission to forbear from applying a regulation or provision of the Act only if the Commission makes three determinations based on the record:

(1) enforcement of such regulation or provision is not necessary to ensure that the charges, practices, classifications, or regulations by, for, or in connection with that telecommunications carrier or telecommunications service are just and reasonable and are not unjustly or unreasonably discriminatory;
(2) enforcement of such regulation or provision is not necessary for the protection of consumers; and
(3) forbearance from applying such provision or regulation is consistent with the public interest.224

Under the Commission’s framework for evaluating competition in forbearance proceedings, wholesale and retail markets must be analyzed separately, and the petitioner must demonstrate that there is effective facilities-based competition in either the wholesale or retail market in each relevant product and geographic market.225 The Competitive Carriers Group has separately

224 47 C.F.R. § 160(a) (emphasis added).
moved the Commission to summarily deny the Petition for failure to comply with the “complete-as-filed” requirement as set out in the Commission’s rules. The record does not contain enough information for the Commission to make the determinations necessary to grant forbearance, and, in fact, makes clear that forbearance cannot be granted in properly-defined relevant markets. This section highlights how, based on the information that is in record, the Petition fails to meet any of the three statutory factors for forbearance with respect to the Category 1 and Category 2 provisions. Accordingly, the Commission should deny the Petition.

A. The Commission Should Not Forbear from Section 251(c)(3)’s Unbundling and Associated Section 252 Requirements

Section 251(c)(3) and the Commission’s unbundling rules create a wholesale market for customer access, which in turn has spurred innovation and investment in the retail markets for voice and data services. The results of this retail competition are lower prices as well as better service quality and choice for consumers. Forbearance would effectively end this wholesale market in many communities that lack viable alternatives, raising prices and stifling investment to the detriment of the consumer and the public interest.

1. UNEs Remain Necessary to Ensure Just and Reasonable Rates and to Prevent Unjust and Unreasonable Discrimination in the Wholesale and Retail Markets

As explained in this Opposition, UNEs play an essential role in ensuring that customers, particularly those in underserved communities without facilities-based competition, have access to advanced communications services at reasonable prices and terms. Access to unbundled loops, dark fiber transport, and other associated network elements (including NIDs and OSS) at TELRIC rates establishes a wholesale market in which competitive providers can purchase

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226 See Motion for Summary Denial.
inputs at cost for their own end user voice and data services.\textsuperscript{227} Eliminating this access through forbearance would effectively shut down the wholesale market in many areas in which there are no alternative sources for inputs like DS0 loops. In other areas, the alternatives to UNEs are special access and Ethernet services provided over facilities controlled by ILECs, which have the incentive and ability to raise their rivals’ costs by charging much higher prices for others. High barriers to entry also prevent competitive sources of wholesale access from emerging in these same underserved areas. As a result, if forbearance were granted, retail customers will have to pay higher rates for vital voice and data services; or will lose access to specific services that meet their needs and, in some cases, to broadband services altogether.

Competitive providers lack economically viable wholesale alternatives to UNEs in many geographic and product markets. The Commission’s own data show that, for business data services, ILECs control the sole connection to customers in the vast majority of locations.\textsuperscript{228} Competitive providers have also explained that there are no commercial substitutes for unbundled copper-pair loops, and rarely for interoffice dark fiber transport.\textsuperscript{229} Where there are ILEC substitutes for unbundled DS1 and DS3 loops in the form of special access or wholesale Ethernet services, purchasers would face price increases of several times what they currently pay.\textsuperscript{230} As the Commission and the D.C. Circuit recognized in the context of impairment

\textsuperscript{227} As noted above, if an ILEC disagrees with the calculation of UNE rates, there is already an existing option for challenging those rates. \textit{See supra}, Section II.B.
\textsuperscript{228} \textit{See supra} Section II.C.
\textsuperscript{229} \textit{See supra} Sections II.C and III.C.
\textsuperscript{230} \textit{See} Access One Decl. ¶ 11 (In Illinois, where Access One would be most affected, UNE DS1 tails sell for a maximum of $54, without a service term. A monthly term Special Access DS1 service costs $250 to $320, depending upon the zone of the service address.”); First Communications Decl. ¶¶ 17-18 (“If First Communications were no longer able to obtain DS1 UNE loops, DS1 special access circuits would be approximately $200 more
analysis under Section 251, incumbents that control facilities necessary for their competitors to serve customers have an incentive to set high prices for those facilities in order to disadvantage those competitors. USTelecom has failed to meet its burden of production to demonstrate that wholesale markets for loops and interoffice transport are competitive, and the available information does not support a conclusion that wholesale markets nation-wide are sufficiently competitive to establish the absence of market power. Without a competitive wholesale market to which competitive providers can turn for lower priced inputs, those providers would either have to pass the higher prices to their own end user customers or exit the market entirely. Either way, consumers lose.

The record also does not support a conclusion that there is sufficient retail competition to support nation-wide forbearance. Although the Petition asserts that UNEs play a small and diminishing role on a nation-wide level, it ignores the critical role UNEs play in the specific markets in which they are available. As the Ohio Public Utilities Commission observed, the Petition’s own figures imply that “resale and UNE loops must still be utilized to provision approximately seven percent of end-user switched and VoIP lines,” which “is not an insignificant expensive.”)

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232 See Qwest Phoenix Forbearance Order ¶ 74 (concluding that Qwest has market power in the wholesale market for loops because competitive providers “reach relatively few buildings”); id. ¶ 78 (concluding that Qwest has market power for local dedicated transport because the “record does not reveal likely widespread potential competition for wholesale dedicated local transport between Qwest’s central offices in these areas”).

233 See Ohio PUC Comments at 5-6.

234 See supra Section III.B.1.
number of lines served.”235 As Dr. Sappington observes, competitive entry from even a small number of UNEs, and the lower barriers to entry that UNEs provide, can discipline pricing and incent further investments in service quality and delivery by the ILEC, and where it is present, the cable incumbent.236 Moreover, there is evidence of lack of competition in the retail market for residential broadband service in many markets around the country. Providers like Virginia Global and IdeaTek have explained that in the rural communities they serve, there often is no cable presence, and in some cases even the ILEC does not offer broadband service to residential customers.237 Thus, the Petition fails to establish the presence of even a duopoly in the markets in which it seeks forbearance, and in any event under the Commission’s forbearance standard, a cable/ILEC duopoly does not establish sufficient retail competition for mass market services to justify forbearance.238

Similarly, with respect to markets for voice and data services for small and medium-size business and government customers, there is also evidence of lack of competition in both rural communities and metro areas outside of central business districts.239 USTelecom has not shown that “recognized barriers to entry, which UNEs are designed to help competitors overcome, have been lowered to enable similar competitive facilities deployment” by competitive providers other

235 Ohio PUC Comments at 5.
237 See IdeaTek Decl. ¶ 2; Virginia Global Decl. ¶ 2.
238 See Qwest Phoenix Forbearance Order ¶¶ 85-86.
239 See Access One Decl. ¶ 8 (“The Company provides traditional voice services to 28 Chicago locations for Catholic Charities, often in urban areas where CLECs are the only competitive choice for traditional communications services.”); Socket Decl. ¶ 37.
than potentially the incumbent cable companies.\textsuperscript{240} In many markets served by our members, business customers lack even the option of a cable provider.

The record also does not support the Petition’s assertion that UNE rates everywhere are “artificially low.”\textsuperscript{241} If the Petition is arguing that existing rates are below what they should be under the Commission’s rules, i.e., below cost, the appropriate remedy is to seek different rates before the appropriate state utilities commission based on evidence of costs. If instead the Petition is arguing that current UNE rates are below what the ILECs would be able to charge competitive providers for a comparable service, that begs the question of whether those rates would be just and reasonable if UNE-based competition were not available.\textsuperscript{242} Under either of these interpretations, there is no evidence that UNE rates are too low on a nation-wide basis. Given this record, the Commission cannot conclude that the retail markets for business services are sufficiently competitive on a nation-wide basis to ensure that charges will be just and reasonable if forbearance were granted. Accordingly, the Commission should find that the Petition has not demonstrated that enforcement of the unbundling rules is not necessary to ensure just and reasonable charges and practices.

2. \textit{Forbearance from Unbundling Requirements Would Undermine Consumer Protection and Is Inconsistent with the Public Interest}

The record evidence supporting the conclusion that the unbundling requirements remain necessary to ensure just and reasonable charges and practices also supports a finding that those

\textsuperscript{240} \textit{Qwest Phoenix Forbearance Order} ¶ 98.
\textsuperscript{241} See Petition at 23.
\textsuperscript{242} For example, the \textit{BDS Order} noted that UNEs, “where available, allow competitive providers to effectively compete in lower bandwidth services.” \textit{BDS Order} ¶ 32.
same requirements are necessary for consumer protection.\textsuperscript{243} In addition, the record also shows that access to UNEs remains necessary for competitive providers to offer innovative services to residential customers, including upgrading central office equipment to achieve higher speeds than those offered by the incumbent over legacy facilities.\textsuperscript{244} This evidence provides additional support for concluding that forbearance would undermine consumer protection.\textsuperscript{245} For business and government customers, competitive providers “rely on UNEs to target particular niche markets or customer segments” such as multilocation customers and smaller size business customers with specific needs that are unserved by mass market- and enterprise-focused incumbents.\textsuperscript{246}

In determining whether forbearance is in the public interest, Section 10 further instructs, “the Commission shall consider whether forbearance from enforcing the provision or regulation will promote competitive market conditions, including the extent to which such forbearance will enhance competition among providers of telecommunications services.”\textsuperscript{247} The Commission has observed that “the loop and transport UNEs at issue in this proceeding are legacy facilities that already have been constructed,” and “[a]ny investment disincentives therefore would seem to have little likely impact” on the incumbents’ incentives to invest in fiber networks.\textsuperscript{248}

\textsuperscript{243} See id. ¶ 102.
\textsuperscript{244} See supra Section III.B. See also Brattle UNE Decl. ¶ 10 and Table 4, 18 and Figure 2.
\textsuperscript{245} See Qwest Phoenix Forbearance Order ¶ 102.
\textsuperscript{246} Id. ¶ 103; see also Bullseye Decl. ¶ 2 (a company for which “national multi-location customers is a "niche focus.").
\textsuperscript{247} 47 U.S.C. § 160(b).
\textsuperscript{248} See Qwest Phoenix Forbearance Order ¶ 108.
As explained above, access to UNEs reinforces investment incentives for both competitive providers and incumbents in order to win the race to build next generation fiber networks.\footnote{See supra Sections III.B.2-III.B.3.} Under current rules, ILECs have a strong incentive to pursue a “natural forbearance” option by upgrading their own legacy networks to fiber. This option in turn spurs competitive providers to upgrade their own networks and transition customers off of UNEs before the ILEC can build out its fiber network and retire its copper loops.\footnote{Sappington Report at 14-16.} Nation-wide forbearance would short-circuit this process by allowing ILECs to shed their unbundling obligations without making any improvements to their own networks. The result not only undercuts competitors’ ability to expand their own fiber networks, but also dampens incumbents’ incentives to upgrade their legacy facilities, for which they would be able to charge supracompetitive prices. Because nation-wide forbearance would both harm competition and reduce incentives for investment in fiber networks, it would not be in the public interest to grant the Petition.

**B. The Commission Likewise Should Not Forbear from Continuing to Apply Section 251(c)(4)’s Avoided-Cost Resale Obligations**

Section 251(c)(4) has enabled competitors like Granite to create highly-sought-after service offerings that rely on traditional TDM-based business telephone service because of the unique benefits it provides, including the reliability that results from self-powered lines. Indeed, multi-location businesses, government agencies, and public safety institutions all rely on innovations like Granite’s provision of “one stop shop” service. Forbearance from the avoided-
cost resale requirement would result in increased prices and other significant harms with no demonstrable public interest benefit.

1. **Avoided-Cost Resale Is Necessary to Constrain Prices for Traditional TDM-Based Services**

There is no question that resale rates will increase should the Commission forbear from the Section 251(c)(4) avoided-cost resale obligations. State regulators would no longer be able to impose a discounted rate on tariffed retail prices, and, as discussed above, resale prices would no longer constrain the prices ILECs charge in commercial wholesale agreements.251 Relatedly, wholesale line acquisition costs would increase as the acquisition cost of its next best alternative increases. USTelecom is well aware of these negative effects on Granite and the ILECs’ other competitive carrier customers; otherwise, it would not have petitioned for forbearance.252

Such line procurement cost increases for competitive carriers like Granite would lead to additional harms. ***BEGIN HIGHLY CONFIDENTIAL ***

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Second, competitive carriers such as Granite would see their margins decline and would be unable to compete as effectively with ILECs when their line procurement costs are significantly higher – perhaps even as high as the ILECs’ own retail rates. Third, reduction in relative competitiveness vis-à-vis the ILECs would be expected to lead to the usual harms from exclusionary acts towards competitors, including


252 Brattle ResaleDecl. ¶ 27.

253 Brattle ResaleDecl. ¶ 29; Granite Decl. ¶ 42.
increased retail rates for multi-location businesses, whether served by an ILEC or a competitive carrier, reduced product differentiation and innovation, and lower quality.\textsuperscript{254} Multi-location businesses, for example, would lose value and efficiencies provided by Granite as a “one-stop shop,”\textsuperscript{255} and both multi-location businesses and small business customers would suffer from limitations on Granite’s ability to provide functionalities only available through avoided-cost resale.\textsuperscript{256}

Moreover, the provisions USTelecom cites as alternatives to the protections of Section 251(c)(4) do not sufficiently guard against ILEC abuse of market power.\textsuperscript{257} First, Section 251(b)(1) does not require that the resale rate take into account the costs that ILECs avoid by selling to a competitive LEC, rather than a retail customer.\textsuperscript{258} Second, Section 251(b)(1)’s resale requirement places the burden of demonstrating harm on competitive providers like Granite that, of course, lack a full understanding of the ILEC cost structure and private deals that it has struck and have structurally weaker bargaining power than the ILECs.\textsuperscript{259} Third, Section 251(b)(1)’s resale requirement lacks a methodology for calculating the resale rate and would require that post \textit{hoc} enforcement proceedings be instituted at the state or federal level whenever Granite believes it is being treated unfairly.\textsuperscript{260} Furthermore, USTelecom fails to acknowledge that the Commission has relied on the continued availability of “cost-based rates available under section

\textsuperscript{254} Brattle ResaleDecl. 29.
\textsuperscript{255} Granite Decl. ¶ 45.
\textsuperscript{256} \textit{Id.} ¶ 44.
\textsuperscript{257} Petition at 29.
\textsuperscript{258} See 47 U.S.C. § 251(b)(1).
\textsuperscript{259} Granite Decl. ¶ 41.
\textsuperscript{260} \textit{Id.} ¶ 41.
251 and through resale” – the very Category 1 requirements from which USTelecom seeks forbearance in the instant Petition – to justify forbearance from Section 271 checklist items.\footnote{USTelecom 2015 Forbearance Order ¶ 32.}

2. Forbearing from the Avoided-Cost Resale Requirement Would Likewise Harm Consumers and the Public Interest

Forbearance from Section 251(c)(4) avoided-cost resale as it applies to traditional TDM-based telephone service also would harm consumers and would be inconsistent with the public interest. In contrast to its claims with regard to the elimination of UNEs, USTelecom has not even attempted to allege public interest benefits associated with forbearance from avoided-cost resale. This is unsurprising given that forbearance from the avoided-cost resale requirement would be detrimental to competitive market conditions and would harm consumers. Notably, multi-location business customers would be harmed by the loss of “one-stop shop” value and efficiencies, and both multi-location businesses and small business customers would suffer from limitations on the ability of Granite and other providers to offer functionalities only available through avoided-cost resale. Furthermore, while competition and consumers would be harmed by rate increases if the Commission were to forbear from the Section 251(c)(4) avoided-cost resale requirement, there are no identified costs (and the ILECs have alleged none) associated with retaining the requirement because the avoided-cost discount ensures ILECs’ ability to earn the profits they would make selling their services to retail customers, minus the costs they avoid by selling their services at wholesale. Finally, forbearance from the avoided-cost resale requirement would do nothing to increase incentives to invest in the construction of new networks or the provision of new services.
C. The Commission Should Not Forbear from the Section 272(e)(1) Requirements

The Petition also sought forbearance from 272(e)(1) of the Act and Section 64.1903 of the Commission’s rules. Section 272(e)(1) imposes a nondiscrimination requirement on Regional Bell Operating Companies’ (“RBOC”) fulfillment of requests for telephone exchange service and exchange access services from unaffiliated entities compared to RBOCs’ fulfillment of requests from affiliated entities.262 Less than three years ago, the Commission denied the same request in a USTelecom forbearance petition,263 and this Petition has not established that circumstances have changed sufficiently to justify a different decision.

First, the fundamental rationale for the Commission’s 2015 decision—that the Section 272(e)(1) safeguards protect competition “from the BOCs’ ability to use any existing market power in local exchange services to obtain an anticompetitive advantage”264—remains just as valid today. The Petition argues that the Commission should revisit its 2015 decision by citing general Commission statements about the state of competition in the markets for interexchange service and business data services.265 Even if accurate, these observations would not address the basis for the Commission’s earlier decision, which is not merely that USTelecom had failed to differentiate between enterprise and mass market long-distance service, but also that “the record in this proceeding does not contain granular data that could yield conclusions as to the state of competition in any geographic or product market—let alone in every segment of the

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263 See USTelecom 2015 Forbearance Order ¶ 40.
264 Id.
265 See Petition at 35-36.
This Petition and this record do not provide the Commission with any more granular data on the state of competition in specific geographic markets, or in the retail product markets in which long-distance service is bundled by competitive providers with other voice and data services.

Second, the concerns raised by competitive providers in the 2015 proceeding also remain valid today. In its 2015 decision, the Commission observed that, based on comments from competitive providers, “removal of these safeguards would compromise their access to wholesale inputs, including special access services, that they rely on to compete with incumbents in the provision of ‘downstream long-haul services’ to business customers.” Because ILECs still predominately control bottleneck facilities, the nondiscrimination protections are still necessary to ensure that competitors are not placed at a disadvantage in competing for enterprise customers. That enterprise customers tend to purchase long-distance service in bundles with other communications services does not lessen the power of ILECs to discriminate against competitors in the fulfillment of exchange access.

Third, the Petition’s argument that the Commission should forbear from Section 272(e)(1) because Section 202 of the Communications Act is sufficient protection has also already been rejected by the Commission. In its 2015 order, the Commission concluded that “section 272 establishes protections that are not wholly replicated by any other Act provision or Commission requirement,” and thus “cannot find that application of the remaining section 272

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266 USTelecom 2015 Forbearance Order ¶ 42 (internal quotation marks omitted).
267 Id.
268 See Petition at 37.
obligations is ‘not necessary to protect consumers’ per section 10(a)(2).”\textsuperscript{269} In sum, the Petition has not provided any reason for the Commission to revisit and overrule its decision in 2015, and the same evidence showing that there is not sufficient competition to warrant nation-wide forbearance of the unbundling and avoided-cost resale obligations also supports the conclusion that the Commission should not forbear from the Section 272(e)(1) requirements.

\textsuperscript{269} \textit{USTelecom 2015 Forbearance Order} ¶¶ 43-44.
VI. CONCLUSION

For the foregoing reasons, the Commission should deny USTelecom’s Petition for forbearance from the Category 1 obligations under Section 251(c)(3) and Section 251(c)(4), and the associated obligations under Section 251(d)(3) and Section 252; and from the Category 2 obligations under Section 272(e)(1).

Respectfully submitted,

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Premature, Ubiquitous Forbearance Will Harm Consumers

by David E. M. Sappington

I. Qualifications.

My name is David Sappington. I hold the titles of Eminent Scholar and Director of the Public Policy Research Center, both at the University of Florida. Since earning my Ph.D. in economics from Princeton University in 1980, I have served on the faculties of the University of Michigan and the University of Pennsylvania and on the technical staff of Bell Communications Research. I have also served as the Chief Economist for the Federal Communications Commission and as the President of the Industrial Organization Society. I presently hold positions on the editorial boards of six major journals, including the Journal of Regulatory Economics, the Rand Journal of Economics, and the Review of Industrial Organization.

My research analyzes a broad range of issues in the field of industrial organization, with a focus on the design and implementation of regulatory policy. I have published more than one hundred and fifty articles in leading journals in the profession and have coauthored a book on Designing Incentive Regulation for the Telecommunications Industry. My curriculum vitae appears as an attachment to this report.

II. Purpose and Outline of this Report.

USTelecom ("UST") has petitioned the U.S. Federal Communications Commission ("the FCC" or "the Commission") to forbear from applying unbundling, resale, and non-discrimination obligations that ILECs presently face. This report explains why the nationwide forbearance UST seeks is inappropriate and would harm consumers. This report also explains why UST’s justification for the ubiquitous forbearance it seeks is fundamentally flawed. This report further documents the critical error in the economists’ report ("the Economists’ Report")¹ that accompanies UST’s petition for forbearance ("the UST Petition").² This critical error completely undermines the credibility of the Economists’ Report.

The extent and nature of competition in the provision of communications services varies substantially across the country. Competition is pronounced for certain services in some geographic regions. In contrast, competition is extremely limited, if not entirely non-existent, for particular services in other geographic regions. In order to protect consumers as necessary without impeding beneficial competitive forces, regulatory policy must be tailored to the environment in which it is implemented. The UST Petition ignores this fact and fails to acknowledge the wide

¹ Hal Singer et al., “Assessing the Impact of Forbearance from 251(c)(3) on Consumers, Capital Investment, and Jobs” (May 2018), appended as Appendix B to the UST Petition.

variation in competitive conditions across the nation. Consequently, the petition’s call for nationwide forbearance is inappropriate and misguided. The requested forbearance would harm consumers by limiting competition in the supply of important communications services in many regions.

The *Economists’ Report* shares the same fundamental flaw with the *UST Petition*. The *Economists’ Report*’s failure to account for relevant differences in competitive conditions leads it to adopt highly implausible assumptions that completely undermine the credibility of the report’s conclusions. The report also fails entirely to address the role of resold telecommunications services in promoting competition and delivering benefits to consumers.

The present report explains these conclusions as follows. Section III first describes the widely-varying nature and extent of competition in the provision of communications services in the United States. Section III then identifies UST’s fundamental error in ignoring this variation in competitive conditions. Section III’s review of competitive conditions observes that there are at most two full facilities-based suppliers of key communications services in many geographic regions. Section IV explains why, as the Commission has noted, duopoly competition cannot be relied upon to protect consumers. Section V demonstrates how the nationwide forbearance the UST advocates would harm consumers by fostering monopoly and duopoly industrial structures, thereby limiting price and quality competition and valued service differentiation. Section V also explains how forbearance would harm consumers and impede economic development in the United States by reducing broadband infrastructure investment by both competitive local exchange carriers (“CLECs”) and incumbent local exchange carriers (“ILECs”). Section VI identifies the fundamental flaw in the *Economists’ Report* that totally undermines its credibility. Section VII summarizes the key conclusions of the present report.

**III. The UST Petition is Fundamentally Flawed Because it Fails to Recognize the Highly Varied Nature and Extent of Competition in the Provision of Communications Services.**

**A. Competitive Conditions Vary Widely.**

Customers can purchase a broad range of communications services from several facilities-based suppliers in some areas of the United States. For example, companies located in the central business districts of the largest and most densely populated metropolitan areas often can secure a diverse range of voice and data services from the ILEC or from one of several CLECs that serve customers using their own fiber networks.³

In contrast, there are many regions in the U.S. where consumers have little or no choice among suppliers of communications services. To illustrate, as of 2013, there was only one full facilities-based supplier of business data services (“BDS”) at 84% of the locations where customers purchase BDS with cumulative bandwidth below 100 Mbps. There were at most two such suppliers in nearly all (more than 99%) of these locations. Even when BDS locations of all bandwidths are considered, ILECs had the sole facilities to 77% of locations, and less than 1% were served by more than two full facilities-based providers.

Industry concentration is less extreme, but often still pronounced, when measured at the level of the census block. As of 2016, less than 23% of the U.S. population lived in census blocks where more than two facilities-based suppliers delivered high-speed broadband service. Approximately 7% of the U.S. population lived in census blocks where no facilities-based supplier offered high-speed wireline broadband service.

In summary, the nature and intensity of competition in the provision of voice and data services varies widely across geographic regions of the United States. Furthermore, there are many regions in which competition among facilities-based suppliers to deliver important communications services is limited.

B. The UST Petition Fails to Identify Relevant Geographic Markets.

The UST Petition asserts that the unbundling, resale, and non-discrimination obligations that ILECs presently face “are not necessary to protect competition or consumers” (p. 2). In an attempt to support this assertion, the UST Petition presents some statistics regarding national trends in the provision and consumption of communications services. The petition then cites these statistics in an attempt to support broad, sweeping generalizations like: (i) “The marketplace is indisputably competitive;” (ii) “UNEs today play a very minor and diminishing role in this

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4 Letter from John T. Nakahata, Counsel to Windstream, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 16-143 et al., at attached table (filed Oct. 21, 2016).
6 Evans Report, Table 2, p. 11. This statistic likely overstates the extent of actual competition at particular locations because a supplier that serves any portion of a census block, no matter how small its actual service territory, is effectively counted as serving the entire census block.
7 Ibid.
8 For example, the UST Petition reports UNE loops nationwide (Chart 4, p. 16), non-ILEC lines nationwide (Chart 5, p. 17), and ILEC wholesale lines and non-ILEC resold lines nationwide (Chart 6, p. 18).
9 UST Petition, note 22.
competitive marketplace;” 10 (iii) “The marketplace is irrevocably open to competition;” 11 (iv) “The market is highly competitive.” 12

The petition’s focus on broad national statistics suggests that UST believes the relevant geographic market is the entire United States of America when assessing the nature and extent of competition in the provision of communications services. This belief is fundamentally incorrect. In fact, relevant geographic markets are far more local.

As the Commission has noted, a relevant geographic market is a region in which “consumers can ‘practically turn for alternative sources,’ and within which providers can reasonably compete.” 13 An individual or business that seeks to secure wireline telecommunications services for use at its residence or business location cannot secure the services from a firm that does not and cannot profitably supply the services to the customer’s residence or place of business. Consequently, the fact that many firms supply a relevant service in one town does not imply that they compete to serve a customer in a different town, or even at different locations within the same town.

The relevant geographic market when assessing the extent to which competition can protect a local customer can be as small as the customer’s premise. 14 This is the region in which the customer in question can practically seek alternative sources of supply. The relevant geographic market may be larger when nearby suppliers can readily expand their networks to deliver relevant services to a customer’s premise. However, the relevant geographic region does not include regions in which suppliers cannot reasonably compete for the customer’s patronage.

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10 Ibid, p. 15.
12 Ibid, p. 29.
14 The FCC observes that “each customer location constitutes a separate relevant geographic market, given that a customer is unlikely to move in response to a small, but significant and nontransitory increase in the price of the service. [footnote omitted.] For reasons of administrative convenience, the Commission traditionally has aggregated customers facing similar competitive choices.” 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, 25 FCC Rcd. 8622, 8657 ¶ 64 (2010) (“Qwest Phoenix Order”).
C. Incorrect Geographic Market Definitions Engender Inappropriate Policy Prescriptions.

A failure to identify relevant geographic markets can give rise to inappropriate policy prescriptions. This fact is readily illustrated by the following simple example. Suppose a territory consists of two geographic regions, labeled region A and region B. Further suppose 19 firms can and do supply the relevant service in region A, whereas only 1 firm can and does supply the service in region B. On average, there are 10 suppliers in each region in this territory, and 10 suppliers may be sufficient to generate strong competitive discipline in any region. However, there is only 1 supplier in region B, and a single supplier that faces no actual or potential competition in this region may be able to raise prices well above cost and thereby harm consumers in the region.

In this setting (and more generally), removing regulatory constraints throughout the territory because there are many competitors in the territory on average will harm consumers in region B. The relaxed regulation will empower the sole supplier in region B to impose monopoly prices on consumers in the region. The appropriate policy here and more generally is to relax regulatory constraints only in regions where competitive discipline alone is sufficient to protect consumers (which is region A in this example).

In the present setting, UST’s failure to identify relevant geographic markets renders its policy prescriptions inapposite. Robust competition for a given product in relevant geographic markets justifies regulatory forbearance for the product in those specific markets. It does not justify the ubiquitous forbearance that UST seeks.

D. The UST Petition Fails to Identify Relevant Product Markets.

The UST Petition does not simply fail to distinguish among relevant geographic markets. The petition also fails to distinguish adequately among relevant product markets. The Commission has noted that it “distinguish[es] product markets by generally looking at whether various services are reasonably interchangeable, with differences in price, quality, and service capability being relevant.”

Many communications services exhibit very different prices, qualities, and service capabilities and are not reasonably interchangeable. Retail voice service typically is not readily interchangeable with retail data service, and wireless data service often is not a good substitute for wireline data service. In addition, the best-efforts broadband service that cable companies

15 BDS Order, ¶ 19.

16 Ibid. ¶ 37 (stating that fixed wireless service are “at most, a gap filler for special access services providing last-mile access to buildings”); see also Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, 2018 Broadband
typically supply often is not an adequate substitute for high-bandwidth service provided over a
dedicated circuit.17 Furthermore, wholesale products like access to dark fiber that can be employed
to transport large quantities of data between ILEC central offices differ in many respects (including
price and service capability) from retail products like residential broadband service.

Even retail services that exhibit many common features can fail to be reasonably
interchangeable. To illustrate, the fact that certain TDM services continue to function even when
electrical power is interrupted make them nearly indispensable to certain suppliers of alarm and
monitoring services.18 This is the case even though non-TDM technologies can deliver nearly
identical communications services when they are operating, but do not operate when the electrical
power is interrupted.

E. Incorrect Product Market Definitions Promote Inappropriate Policy Prescriptions.

When communications services vary in price, quality, and service capabilities, even intense
competition in the provision of one service can fail to protect consumers of other services. To
illustrate this more general conclusion, suppose that several suppliers compete to deliver basic
voice service in a given geographic region, but the ILEC is the sole facilities-based supplier of
high-speed dedicated broadband service in the region. In such a setting, competition may ensure
relatively low prices and high levels of service quality for basic voice service. However,
competition is unlikely to effectively constrain the price of the dedicated broadband service or
ensure it is delivered with high quality.

In this setting and more generally, when assessing the impact of forbearance on
competition and thus on consumer welfare, it is imperative to do so on a product-by-product basis.
Forbearance might not harm consumers of basic voice service in the present example if several of
the suppliers can deliver the service without using UNEs or resold services. In contrast,
forbearance may impose substantial harm on consumers of high-speed broadband service by
undermining the ability of CLECs to employ UNEs to deliver the service.

CLECs can employ UNEs and resold services to deliver communications services in direct
competition with ILECs, thereby constraining the retail prices that ILECs charge and spurring the
ILECs to improve their service quality. CLECs can also employ UNEs and resold services to

17 BDS Order, ¶¶ 190-196 (discussing why “Best Efforts and Business Data Services Are Not in the Same
Product Market”).

18 See, for example, Declaration of Larry Antonellis, ¶¶ 15, 18, Attachment A to Opposition of Granite
Telecommunications, LLC, WC Docket No. 18-141 (filed Aug. 6, 2018) (“Declaration of Larry
Antonellis”); see also, Declaration of Russell Shipley ¶ 35, attached as Exhibit 1 to Opposition of U.S.
deliver differentiated services that ILECs do not deliver. These differentiated services include higher-speed broadband service and consolidated voice and data services at multiple locations across the operating territories of multiple ILECs.\(^1\) Both of these types of CLEC activities benefit consumers by enabling them to enjoy lower prices, higher levels of service quality, and valued service differentiation. As explained further in Section V below, CLEC access to UNEs and resold services also can enhance fiber-based network investment by CLECs and ILECs alike.

**F. The UST is Aware that the Policy it Advocates is Inappropriate.**

The nationwide forbearance that UST advocates is inconsistent with its own view of sound regulatory policy. The ubiquitous forbearance the UST recommends is very distinct from the more granular policy the Commission has adopted for BDS … a policy the *UST Petition* commends. The *UST Petition* observes, for instance, that the Commission's BDS policy is “tailored precisely to today's competitive realities,” noting that the Commission’s “framework uses a ‘competitive market test’ to identify counties in which BDS competition has taken hold” (emphasis added).\(^2\) The *UST Petition* further notes that “In counties that do not pass the test, … price cap regulation, with an increased annual productivity offset [is employed] to ensure that rates remain just and reasonable.”\(^3\) The *UST Petition* concludes that the Commission’s policy is “carefully designed to balance the Commission's twin goals of removing regulation that creates disincentives for broadband investment, but retaining such regulation where it [is] necessary to protect consumers.”\(^4\)

Clearly, UST recognizes the merits of granular regulatory policies that tailor the nature and extent of regulation to the prevailing local market conditions. Despite this recognition, UST calls for nationwide forbearance, eschewing any need to assess the strength of competitive forces in relevant geographic and product markets. UST also calls for the elimination of price regulation – not the imposition of more stringent price regulation – in regions where competition is not yet able to impose effective price discipline on incumbent suppliers. Furthermore, UST does not acknowledge any need to balance the twin goals of encouraging broadband investment and protecting consumers where some ongoing protection is warranted.\(^5\)

In summary, UST advocates regulatory policy that is inconsistent with its own view of appropriate regulatory policy. Furthermore, the evidence in the *UST Petition* provides no

\(^{1}\) See the discussion in Section IV.C below.

\(^{2}\) *UST Petition*, p. 15.

\(^{3}\) *Ibid*.

\(^{4}\) *Ibid*.

\(^{5}\) The *UST Petition* also fails to note that the nationwide forbearance it seeks will reduce, not increase, broadband investment in many geographic regions. (See Section V below.)
meaningful support for the policy that UST advocates. The evidence consists of highly aggregated statistics that provide little insight regarding the nature and extent of competition in relevant geographic and product markets. Consequently, the UST Petition is fundamentally flawed and fails to provide the information the Commission requires to properly evaluate the impact of forbearance on consumers and competition.

IV. Duopoly Competition Will Not Protect Consumers.

A. Limited Competition Will Persist.

In the many geographic regions where competition presently is limited, ubiquitous, robust competition is unlikely to develop rapidly. The same factors that have inhibited robust competition in many relevant geographic and product markets to date are likely to persist in the near future. Relevant factors include limited geographic concentration of businesses that demand high-bandwidth broadband service, limited revenue potential from low-bandwidth services, and high fixed costs of full facilities-based supply. These costs include the costs of network expansion and the costs of securing access to buildings, conduits, and rights-of-way.24

The sunk cost nature of facilities-based supply also can limit entry into a geographic region. In the face of entry, an incumbent supplier can find it profitable to lower the price it charges for a service all the way down to the supplier’s incremental cost of delivering the service. Incremental cost can be minimal in the presence of substantial fixed, sunk costs. Fierce price competition from an incumbent supplier will reduce the financial return that a new supplier anticipates from making large, sunk investments to serve potential customers. Consequently, in addition to the often-substantial costs of initiating facilities-based service to a new customer, a non-incumbent supplier that has not established a solid base of loyal customers faces substantial financial risk due to intense price competition from a full facilities-based incumbent supplier.25 This risk can constitute a

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24 See, for example: (i) Letter from Paul Margie, Counsel, Sprint, to Marlene H. Dortch, Secretary, FCC, at 7-11, WC Docket No. 16-143 et. al. (filed Mar. 22, 2017) (“Sprint March 22 Ex Parte”) (discussing evidence of entry barriers); (ii) Letter from John Nakahata, Counsel, Windstream, to Marlene H. Dortch, Secretary, FCC, at 17-21, WC Docket Nos. 16-143 et. al. (filed Mar. 27, 2017) (“Windstream March 27 Ex Parte”) (same); (iii) Declaration of Matthew Kohly ¶ 28, attached as Attachment 15 to Opposition of INCOMPAS, FISPA, Midwest Association of Competitive Communications, and the Northwest Telecommunications Association, WC Docket No. 18-141 (filed Aug. 6, 2018) (noting, for instance, the difficulties associated with securing access to telephone poles and rights of way) (“Declaration of Matthew Kohly”); and (iv) Declaration of Dane Jasper, attached as Attachment A to Opposition of Sonic Telecom, LLC to Petition for Forbearance of USTelecom, WC Docket No. 18-141, ¶ 10 (filed Aug. 6, 2018) (citing the problems created by “overloaded poles, inadequate conduit space, local moratoria, and permitting delays”) (“Sonic Decl.”).

25 The Commission has noted that large sunk costs can promote intense competition among established suppliers (“the high sunk network cost nature of this industry indicates that even as few as two nearby providers have the incentive to undercut each other’s price to win customers so long as they at least recover the incremental cost of extending supply to any customer.” BDS Order, ¶123). However, the
substantial barrier to entry by new suppliers. Methods of market entry, such as UNEs and resale, that allow a competitor to build a customer base in a given area before incurring the large fixed, sunk costs of serving the area lower barriers to investment in last-mile fiber networks.

B. Reliance on Duopoly Competition is Inappropriate.

As documented above, many geographic areas are served by at most two full facilities-based providers. Furthermore, the prevailing industry structure in these areas is unlikely to change rapidly.

It is generally inappropriate to rely on duopoly competition to protect consumers. Indeed, economists have cautioned for nearly a century that duopoly may fail to serve consumers any better than monopoly. To illustrate, when analyzing the interaction between two suppliers, Chamberlin observed: “If each seeks his maximum profit rationally and intelligently, he will realize that when there are only two or a few sellers his own move has a considerable effect upon his competitors, and that this makes it idle to suppose that they will accept without retaliation the losses he forces upon them. Since the result of a [price] cut by any one is inevitably to decrease his own profits, no one will cut [price], and although the sellers are entirely independent, the equilibrium result is the same as though there was a monopolistic agreement between them.”26

In summarizing more recent work, Scherer observes: “Any realistic theory of oligopoly must take as a point of departure the fact that when market concentration is high, the pricing decisions of sellers are interdependent, and the firms involved can scarcely avoid recognizing their mutual interdependence. … [W]e should expect oligopolistic industries to exhibit a tendency toward the maximization of collective profits, perhaps even approaching the pricing outcome associated with pure monopoly.”27

Similarly, Martin observes that: “when industry output is produced by a few large firms, it is more likely that they will be able to reach a common view about what it is they should do, all else equal. This makes it easier for them to agree to do it. Further, when there are only a few producers, it is […] easier to detect deviations from the agreed or understood line of conduct. We therefore expect that joint exercise of market power is more likely to occur when seller concentration is high.”28

prospect of intense competition post-entry can serve to deter entry. Consequently, the presence of large sunk costs can harm – not benefit – consumers.


Substantial analytic work formalizes these intuitive observations and identifies conditions under which industry suppliers are particularly likely to engage in tacit collusion that increases prices above competitive levels. Empirical evidence also documents that industry prices increase as industry concentration increases, and that collusive outcomes can emerge under duopoly supply. To illustrate, Parker and Röller document the collusive outcomes that arose in the wireless telecommunications industry when only two carriers were authorized to provide service. In addition, Reiffen and Ward’s study of the pharmaceutical industry finds that “prices steadily decline with an increase in the number of producers and begin to approach long-run marginal cost [only] when there are 10 or more competitors” (parenthetical text added). In a recent comprehensive review of mergers in many industries, Kwoka finds that increased industry concentration leads to substantial price increases whenever there are fewer than five competitors.

C. Forbearance Will Harm Consumers by Limiting Price and Quality Competition.

Competition can benefit consumers in many ways. For example, competition promotes low prices and high levels of service quality. Competition can also benefit consumers by compelling


suppliers to offer new, innovative services or valued service differentiation. Competing suppliers often attract customers by offering new or differentiated, high-quality services that meet the customers’ idiosyncratic needs.

As illustrated in Mr. Zarakas’ declaration, a CLEC that employs UNEs can use the ILEC’s copper loops in combination with the CLEC’s own electronics to offer levels of service that the ILEC has not yet introduced. In approximately half of the census blocks in which Sonic offers broadband service at speeds of 25 Mbps downstream and 3 Mbps upstream (“25/3”) or greater, the ILEC does not offer such service. The CLEC is clearly differentiating its service, to the benefit of consumers.

In addition, a single firm is seldom best-equipped to meet the diverse needs of all potential customers. Instead, different firms develop the skills, expertise, and resources required to best meet specialized needs. ILECs often focus on serving large business customers and delivering mass market voice and basic data services to residential customers. In contrast, CLECs often focus on meeting the special needs of small enterprises, municipal governments, schools, and hospitals.

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34 Declaration of William P. Zarakas, Attachment 2 to Opposition of INCOMPAS, FISPA, Midwest Association of Competitive Communications, and the Northwest Telecommunications Association, at ¶ 10 and Table 4 (“Zarakas Declaration”).

35 Just as countries tend to focus on activities in which they enjoy a comparative advantage relative to other countries (see, for instance, R. Dornbusch, S. Fischer and P. Samuelson, “Comparative Advantage, Trade, and Payments in a Ricardian Model with a Continuum of Goods,” American Economic Review, 67(5), December 1977, 823-839), companies focus on supplying the goods and services that they have become particularly adept at supplying.

36 See, for example, the Declarations of Larry Antonellis (Granite ¶ 4); James Bellina ¶ 9, attached as Attachment 5 to Opposition of INCOMPAS, FISPA, Midwest Association of Competitive Communications, and the Northwest Telecommunications Association, WC Docket No. 18-141 (filed Aug. 6, 2018) (“Declaration of James Bellina”); Jeff Buckingham ¶ 9, attached as Attachment 6 to Opposition of INCOMPAS, FISPA, Midwest Association of Competitive Communications, and the Northwest Telecommunications Association, WC Docket No. 18-141 (filed Aug. 6, 2018); Dan Bubb ¶ 7, attached as Attachment 9 to Opposition of INCOMPAS, FISPA, Midwest Association of Competitive Communications, and the Northwest Telecommunications Association, WC Docket No. 18-141 (filed Aug. 6, 2018) (“Declaration of Dan Bubb”); Douglas Denney (Allstream ¶ 16), attached as Attachment 4 to Opposition of INCOMPAS, FISPA, Midwest Association of Competitive Communications, and the Northwest Telecommunications Association, WC Docket No. 18-141 (filed Aug. 6, 2018) (“Declaration of Douglas Denney”); Daniel Friesen ¶ 2, attached as Attachment 11 to Opposition of INCOMPAS, FISPA, Midwest Association of Competitive Communications, and the Northwest Telecommunications Association, WC Docket No. 18-141 (filed Aug. 6, 2018) (“Declaration of Daniel Friesen”); John Hoehne ¶ 7-8, attached as Attachment 3 to Opposition of INCOMPAS, FISPA, Midwest Association of Competitive Communications, and the Northwest Telecommunications Association, WC Docket No. 18-141 (filed Aug. 6, 2018) (“Declaration of John Hoehne”); Dusan Janjic ¶ 2, attached as Attachment 16 to Opposition of INCOMPAS, FISPA, Midwest Association of Competitive Communications, and the Northwest Telecommunications Association, WC Docket No. 18-141 (filed Aug. 6, 2018); Declaration of Matthew Kohly (Socket ¶¶ 47-48); Jeff Rhoden ¶ 2, attached as Attachment 12 to Opposition of
Serving these customers may not be as profitable as serving large corporations and mass-market residential customers. However, such specialization can allow CLECs to earn a reasonable return on their investments as they serve idiosyncratic needs that ILECs often choose not to serve. Such specialization also secures benefits for CLEC customers, as evidenced by their decision to purchase the specialized services.

Access to UNEs and resold services is often instrumental in allowing CLECs to serve their customers’ needs, particularly during initial stages of operation. Such access can enable CLECs to offer higher-quality services than ILECs offer. To illustrate, UNE access has permitted Douglas Fast Net, Gorge Networks, and IdeaTek to offer much faster broadband service to rural customers than ILECs offer.

Access to UNEs and resold services also enables CLECs to deliver services that ILECs choose not to offer. For example, Digital West, Gorge Networks, IdeaTek, Mammoth Networks, and Socket Telecom employ UNEs to deliver broadband service in rural regions where ILECs


38 See Declaration of Todd Way ¶ 2 (explaining that “DFN’s fiber-to-the-node network drastically outperforms the CenturyLink’s T1-fed DSLAMs, offering services of up to 40 Mbps where CenturyLink only offers 1.5 Mbps.”), attached as Attachment 7 to Opposition of INCOMPAS, FISPA, Midwest Association of Competitive Communications, and the Northwest Telecommunications Association, WC Docket No. 18-141 (filed Aug. 6, 2018) (“Declaration of Todd Way”); Declaration of Dan Bubb (Gorge ¶¶ 2, 7) (noting that Gorge “bond[s] several DS0 loops to provide speeds well beyond what the ILEC can provide over the same copper loops,” in rural areas of Oregon and Washington); and Declaration of Daniel Friesen (IdeaTek ¶ 4) (explaining that it is extending “service outside the ILEC service coverage area,” to “serve … rural farms and homes often unserved or serve with lower speed broadband.”).
have the technological capability to deliver corresponding service, but decline to do so.\(^{39}\) In addition, companies like Allstream Business US, Granite Telecommunications, and Socket Telecom employ UNEs and resold services to deliver voice, basic data, trouble-shooting, and coordinated billing services to customers that operate simultaneously at hundreds, if not thousands, of dispersed locations throughout the nation.\(^{40}\)

In these ways and others, access to UNEs and resold services empower CLECs to benefit consumers by fostering more robust competition than duopolies engender. The more robust competition promotes lower prices, higher levels of service quality, and valued service differentiation.


The Commission is well aware of the fact that duopoly competition generally is insufficient to protect consumers. The Commission has observed that it is not the case that “duopoly always constitutes effective competition and is necessarily sufficient to ensure just, reasonable, and nondiscriminatory rates and practices, and to protect consumers.”\(^{41}\) The Commission has further noted that a compelling case for forbearance requires “additional evidence of robust competition” above and beyond the presence of duopoly competition.\(^{42}\) The Commission’s policy in this regard is well-crafted. Forbearance risks substantial harm to consumers in geographic and product markets where forbearance would empower the ILEC to effectively operate as a duopolist (or monopolist).

In summary, duopoly competition generally fails to protect consumers adequately. The ubiquitous forbearance that UST seeks would expand monopoly and duopoly supply of important communications services. Consequently, although the ubiquitous forbearance that UST seeks would enhance the profits of its members by allowing them to charge monopoly prices for critical inputs or deny access to the inputs altogether, the forbearance would harm consumers.

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39 See the Declarations of Jeff Buckingham (Digital West ¶¶ 2, 12); Dan Bubb (Gorge Networks ¶¶ 2, 10), Daniel Friesen (IdeaTek ¶ 4), Brian Worthen (Mammoth ¶ 10), and Matthew Kohly (Socket Telecom ¶ 8).

40 See the Declarations of Douglas Denney (Allstream ¶ 14), Larry Antonellis (Granite ¶¶ 4-7), and Matthew Kohly (Socket Telecom ¶ 34-40).

41 *Qwest Phoenix Order*, ¶ 29.

42 See *id.*, ¶ 32.
V. Forbearance Will Also Harm Consumers by Reducing Broadband Infrastructure Investment.

In addition to harming consumers by expanding monopolistic or duopolistic supply of important communications services, the ubiquitous forbearance UST seeks would reduce broadband infrastructure investment. The UST Petition initially asserts (largely without explanation) that prevailing regulations “distort incentives to invest in broadband infrastructure.” This assertion appears to be based on the premise that if CLECs are denied access to UNEs and resold services, they will develop or expand their own infrastructure. This premise is suspect for at least two reasons.

A. Forbearance Will Raise CLEC Costs and Limit their Operation.

First, in some instances, the investment required to supply retail communications services over new, proprietary infrastructure is prohibitively costly. This is particularly likely to be the case in rural, residential regions with particularly low population densities. If CLECs are denied access to UNEs and resold services in these regions, they will not expand their infrastructure and will not serve customers. Consumers will be harmed when their choice among competing suppliers becomes more limited.

Retail customers will also be harmed if, after forbearance, ILECs continue to provide access to UNEs and resold services, but at prices that exceed present levels. CLECs typically will be compelled to pass some or all of their increased costs onto retail customers in the form of higher prices. There is little doubt that ILECs will raise the prices of these services if authorized to do so. Indeed, the ILECs’ clear purpose in requesting forbearance is to enhance their profit by securing the Commission’s permission to raise their rivals’ costs and thereby limit the rivals’ ability to impose competitive discipline on ILECs.

Regardless of whether ubiquitous forbearance eliminates CLECs or simply diminishes their ability to discipline ILECs, the forbearance will harm consumers by limiting competition in the provision of important communications services in many geographic regions.

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43 UST Petition, p. 19.

44 Forbearance could well lead to dramatic increases in the prices of key inputs. For instance, Socket Telecom observes that if it is forced to replace UNE DS1 EELs, its wholesale cost for comparable service could increase by more than 350%. (See the Declaration of Matthew Kohly, ¶ 46); Mammoth Networks notes that forbearance could increase its cost of inter-office transport by more than 800%. (See the Declaration of Brian Worthen, ¶ 13.)

45 See, e.g., Zarakas Declaration ¶ 10 (illustrating Sonic’s competitive supply of broadband service levels of 25/3 or greater, and documenting that Sonic’s absence would lead to monopoly or duopoly supply).
B. Forbearance Will Reduce CLEC Broadband Investment.

Second, and perhaps more importantly, it is not appropriate to view a CLEC as making a single, static choice between building its own network and employing an ILEC’s network to serve customers. In practice, CLECs often employ UNEs or resold services initially as they build their customer base. Then, once a CLEC has established a solid base of loyal customers in a given geographic region, the CLEC expands its own fiber-based network to serve customers in the region on a long-term basis.

This process is well-documented, both in principle and in fact. The Telecommunications Act envisions precisely this pattern of expanding industry investment.\textsuperscript{46} In addition, many CLECs in this proceeding explain how they employ UNEs and resold services as stepping stones to more extensive facilities-based competition. For example, Socket Telecom explains how it initially employed UNEs to serve customers in rural Missouri that multiple facilities-based suppliers declined to serve, and how it now employs its own fiber network to serve these customers and others.\textsuperscript{47}

Similarly, Sonic explains how it uses UNEs as a critical element of a dynamic policy to continually build out its fiber network in California. Whereas Sonic began by serving almost all of its customers with UNEs, the company now serves between a quarter and a third of its customers using its own fiber network.\textsuperscript{48} As Mr. Zarakas documents, Sonic has been increasing the number of census blocks in which it serves customers using its own fiber.\textsuperscript{49}

This increasing fiber investment reflects in part the ongoing race between ILECs and CLECs to deploy fiber. CLECs know that as ILECs make their own investments in fiber networks and retire copper networks, DS0 copper UNEs in particular will no longer be available. Consequently, CLECs recognize the importance of building their own networks to serve their customers before the ILEC retires any copper loops the CLECs may presently be employing. Thus,

\textsuperscript{46} See Petition for Declaratory Ruling to Clarify 47 U.S.C. § 572 in the Context of Transactions Between Competitive Local Exchange Carriers and Cable Operators, Order, 27 FCC Rcd. 11532, 11541 ¶ 20 (citing 47 U.S.C. §§ 251, 252) (2012) (noting that Congress enacted Section 251 “to foster development of competition for telecommunications services by allowing competitive LECs to use the incumbent LECs’ networks (through resale or unbundled network elements), rather than forcing the new market entrants to rely exclusively on their own facilities”); see also S. Conf. Rep. No. 104-230, at 148, 142 Cong. Rec. H. 1078 (1996) (“This conference agreement recognizes that it is unlikely that competitors will have a fully redundant network in place when they initially offer local service, because the investment necessary is so significant.”)

\textsuperscript{47} See Declaration of Matthew Kohly, ¶¶ 25-26. For additional evidence of how CLECs routinely employ UNEs temporarily as they expand their network facilities, see the Declarations of Dan Bubb of Gorge Networks (¶ 11) and Douglas Denney of Allstream Business US, LLC (¶ 9).

\textsuperscript{48} See Sonic Decl. ¶ 9.

\textsuperscript{49} Zarakas Declaration ¶¶ 11-13.
the declining use of UNEs and resold services cited in the *UST Petition*\(^50\) likely indicates that UNE access is performing its intended function well in certain geographic regions (e.g., those with moderate population densities), and that continued UNE access will allow this success to be extended to other regions (e.g., those with lower population densities) where fiber deployment is less profitable.

The central point here is that, in practice, CLECs cannot view UNEs as a long-term substitute for their own fiber investment. Instead, they must view UNEs as a transitional means to reduce the risk associated with investment in their own fiber network.\(^51\) UNEs thereby enhance, rather than discourage, CLEC broadband investment. Consequently, the forbearance that UST seeks risks reducing CLEC broadband infrastructure investment, not increasing this investment as the *UST Petition* and the *Economists’ Report* claim.

### C. Forbearance Will Reduce ILEC Broadband Investment.

The long-term increase in CLEC investment facilitated by access to UNEs and resold services can, in turn, stimulate ILEC broadband investment. There are many geographic regions in which ILECs have not yet converted their copper-based facilities to fiber. As CLECs expand their fiber networks to serve customers in these regions, ILECs often will feel pressured to follow suit. This fact has been identified in empirical research.\(^52\) This fact is also well-documented in the present proceeding. For instance, Sonic reports that it was the first company to deliver fiber to the premise in several regions of California. In many neighborhoods, AT&T only offered the service as a response to Sonic’s initiative.\(^53\) And Sonic has built fiber to more census blocks than its ILEC competitors.\(^54\)

The ubiquitous forbearance that UST seeks also would eliminate an important incentive for ILEC broadband investment. Current regulations authorize CLECs to access certain UNEs only where the ILEC is employing copper-based facilities. Consequently, current regulations provide a strong incentive for ILECs to fully convert their copper facilities to fiber. The incentive arises because such conversion endows ILECs with expanded rights to deny CLEC access to their

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\(^{50}\) *UST Petition*, pp. 15-19.

\(^{51}\) Matthew Kohly of Socket Telecom characterizes as “unequivocally … not true” the assertion that CLECs have little long-term interest in building their own networks. See Declaration of Matthew Kohly, ¶ 17.

\(^{52}\) See, for example, Glenn Woroch, “Competition’s Effect on Investment in Digital Infrastructure,” University of California at Berkeley discussion paper, May 2000, available at elsa.berkeley.edu/~woroch/investment%20competition.pdf (noting in reference to investment in digital fiber rings that “CLEC entry leads to subsequent ILEC investment” and “incumbents and entrants match each others’ investments”, at title page).

\(^{53}\) See Sonic Decl. ¶ 11.

\(^{54}\) See Zarakas Declaration, ¶ 5 and Table 1.
networks. ILECs value these expanded rights highly, as the UST Petition makes apparent. Forbearance would hand these rights to ILECs even if they choose not to fully convert their copper networks to fiber. Consequently, the ubiquitous forbearance that UST seeks stands to reduce fiber-based broadband infrastructure investment by removing a potentially strong incentive for such investment by ILECs.

D. State Reviews of UNE Rates Best Address Any Legitimate Concerns about Changing UNE Costs.

UST’s call for forbearance remains suspect even if one (inappropriately) ignores the dynamic nature of CLEC operations and the fact that current access to UNEs and resold services can promote future investment in broadband infrastructure. The UST Petition eventually admits that prevailing regulations limit efficient, static investment in broadband infrastructure only if UNE prices are set below prescribed levels. Specifically, the petition states that “mandates that make legacy facilities and services available at artificially low rates reduce incentives for competitors to deploy their own broadband facilities.”55 The petition also asserts that “below-market UNE rates distort investment decisions.”56

UNE prices are intended to reflect a supplier’s total element long-run incremental cost (TELRIC). Therefore, a TELRIC-based UNE price reflects the forward-looking, efficient cost of supplying the UNE. When a supplier faces such a UNE price at any moment in time, it has an economic incentive to operate using the UNE if and only if industry costs are lower when the relevant retail service is supplied via the UNE rather than via independent infrastructure investment by the supplier. In other words, TELRIC-based UNE prices induce suppliers to make efficient “make-or-buy” decisions and thereby minimize industry production costs.57

This fact implies that even if one adopts UST’s (inappropriate) static view of CLEC operations, UST’s assertion regarding investment distortions has merit only if its claim that UNE prices do not reflect TELRIC principles is accurate. UST’s assertion is thereby lacking in at least two important respects. First, the claim that UNE prices are set below TELRIC levels is

55 UST Petition, p. 23.
57 See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, First Report and Order, 11 FCC Rcd. 15499, 15849 ¶ 685 (1996) (explaining that TELRIC-based pricing “encourages facilities-based competition to the extent that new entrants, by designing more efficient network configurations, are able to provide the service at a lower cost than the incumbent LEC”); see also Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd. 16978, 17392 ¶ 670 (2003) (“TRO” (“TELRIC assumes that the value of an incumbent LEC’s network is constrained by the most efficient technology available, even if the incumbent LEC itself does not deploy, or plan to deploy, that technology”).
unsubstantiated. Second, if there is some merit to this (unsubstantiated) claim, then UST’s alleged concern with static, myopic investment decisions is better addressed by presenting state public utility commissions with evidence that justifies changes in UNE prices than by implementing nationwide forbearance. The former policy can address the alleged problem directly without risking the substantial consumer harm that ubiquitous forbearance would introduce.58

In summary, the nationwide forbearance that UST seeks threatens to reduce broadband investment by both CLECs and ILECs. In doing so, the forbearance would harm consumers of communications services and the American economy more broadly.

VI. The Economists’ Report is Fatally Flawed.

A. The Economists’ Report Repeats the Fundamental Error in the UST Petition.

The Economists’ Report says nothing about how resold services can enable CLECs to better serve consumers and impose competitive discipline on ILECs. With respect to UNEs, the report suffers from the same fundamental flaw that plagues the UST Petition. Specifically, the report fails to adequately assess the state of competition in relevant product and geographic markets. This failure leads to implausible assumptions and conclusions.

The Economists’ Report assumes that many consumers presently pay relatively high prices for legacy communications services of relatively low quality.59 The report further assumes that many of these consumers would quickly begin to purchase higher-quality, lower-priced next-generation communications services once forbearance was implemented. The Economists’ Report relies upon estimates of nationwide average prices for next-generation services like Ethernet broadband.60 In doing so, the report assumes these services are readily available to all customers at the specified prices. However, if, as the report suggests, these superior services are readily

58 The Economists’ Report (p. 12) faults current regulatory policy for setting UNE prices “below market.” This criticism is misguided. It fails to recognize the appropriate role of regulatory policy. Competition drives prices to reflect costs. As Alfred Kahn has noted, the primary task of regulation is to replicate the discipline that competition would impose, if it were present. (See Alfred Kahn, The Economics of Regulation: Principles and Institutions, New York: John Wiley and Sons, Vol. I, 1970, p. 17 (“The single most widely accepted rule for the governance of the regulated industries is regulate them in such a way as to produce the same results as would be produced by effective competition, if it were feasible”).) Thus, the price of a UNE should reflect its cost (as TELRIC principles prescribe). In the absence of robust competition, the market price of a service typically will exceed its cost. Consequently, UNE prices that reflect cost – not market prices – can be entirely appropriate, and do not reflect a failing of the regulatory process.

59 The Economists’ Report estimates that “Across the board, prices for next-generation products are lower than the legacy products they are replacing” (p. 16).

60 See, for example, the Economists’ Report (Figure 9, p. 17).
available at lower prices than consumers presently pay for corresponding legacy services, why would consumers purchase the allegedly lower-quality services at higher prices?

Clearly, the premise that underlies the Economists’ Report makes no sense. Consumers will only purchase low-quality services at high prices if they are unable to purchase higher-quality services at lower prices. The obvious reason why consumers purchase legacy services at relatively high prices is that next-generation services are not available at the nationwide average prices cited in the Economists’ Report. The next-generation services may be available to customers in some geographic regions at the specified prices, but the services are not available at these prices in all relevant geographic markets. Thus, the failure of the Economists’ Report to account for key differences across relevant geographic and product markets leads to implausible conclusions.


The failure of the Economists’ Report to adequately assess the state of competition in relevant product and geographic markets leads to implausible over-estimates of the gains that forbearance would deliver to consumers. The report predicts that forbearance would substantially increase consumer surplus as consumers rapidly switch from high-priced legacy services to low-priced next-generation services. The predicted increase in consumer surplus will not arise if, in fact, consumers in many geographic regions are unable to make such a switch.

The Economists’ Report also exaggerates the impact of forbearance on broadband investment and job creation. The report predicts that a great deal of new investment will be undertaken in order to satisfy the substantial increase in the demand for next-generation services that forbearance will induce. However, as explained above, the predicted increase in demand reflects inappropriate assumptions about the prices and availability of next-generation services. If the projected demand does not materialize, then neither will the predicted investment and job creation – even if the assumptions in the Economists’ Report regarding the investment patterns of industry participants are valid (which is far from apparent).

C. The Economists’ Report Relies on Unverifiable Information.

Compounding the identified fundamental flaw in the Economists’ Report is its reliance on unverifiable information. The authors report that they “calculated the weighted average price for each product based on pricing information provided by the ILECs.” Because the authors do not

61 It is also possible that, for the reasons explained above, some consumers prefer legacy circuit-based (TDM) services to next-generation services even when the two types of service are available at comparable prices.

make this “pricing information” available, the accuracy of the information and thus the merits of
the conclusions drawn using the information cannot be verified.

The authors further report that they “interviewed the contributing ILECs to better
understand the most likely retail products associated with each UNE offering.”63 The nature and
accuracy of the information provided during these interviews (and thus the conclusions drawn
from the information) are difficult to assess.

In summary, the Economists’ Report relies on unverifiable information and highly
implausible assumptions. The implausible assumptions, in turn, completely undermine the
credibility of the conclusions drawn in the report.

VII. Conclusions.

The nature and extent of competition in the provision of communications services varies
widely across the United States. There are many geographic regions in which competition in the
supply of important communications services is limited. The nationwide forbearance that UST
advocates would harm consumers by further limiting competition in these regions. Forbearance
would also reduce investment in broadband infrastructure and thereby harm consumers and the
American economy.

The misguided analysis in the UST Petition and the Economists’ Report does not support
the UST’s call for ubiquitous forbearance. The lack of meaningful support for such forbearance is
not surprising. The requested forbearance would increase ILEC profit by authorizing ILECs to
exclude or seriously weaken their competitors. However, the forbearance would harm consumers
by limiting competition in the supply of important communications services in many geographic
regions of the United States. The Commission can avoid this harm by declining to grant the UST’s
inappropriate request for nationwide forbearance.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty
of perjury.

David Sappington

August 6, 2018

Date

63 Ibid, p. 15.
EDUCATION:


PROFESSIONAL EXPERIENCE:

1991 – Present  Eminent Scholar, Department of Economics, University of Florida.
1989 – 1990  Matherly Professor of Economics, Department of Economics, University of Florida.
1988 – 1989  Visiting Lecturer with Title of Full Professor, Department of Economics, Princeton University.
1984 – 1989  Member of Technical Staff, Economics Research Group, Bell Communications Research.
1982 – 1986  Assistant Professor, Department of Economics, University of Pennsylvania.
1980 – 1982  Assistant Professor, Department of Economics and Institute of Public Policy Studies, University of Michigan.

ADDITIONAL POSITIONS:

1999 – Present  Director, Robert F. Lanzillotti Public Policy Research Center, University of Florida.
1989 – Present  Senior Research Associate, Public Utility Research Center, University of Florida.
2009 – Present  Member of Board of Directors, Industrial Organization Society.
2006 – 2007  Vice President, Industrial Organization Society.
1993 – 1998  Associate Director, Public Policy Research Center, University of Florida.
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JOURNAL PUBLICATIONS:


August 2018
JOURNAL PUBLICATIONS (CONTINUED):


Reprinted in the following works of Edward Elgar Publishers (Cheltenham, England):
(ii) D. Parker, *Privatisation and Corporate Performance*, 2001; and
JOURNAL PUBLICATIONS (CONTINUED):


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BOOKS/MONOGRAPHS:


BOOK CHAPTERS:


BOOK REVIEWS:


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BOOK REVIEWS (CONTINUED):


OTHER PUBLICATIONS:


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2017 – 2019  Term Professorship Award, University of Florida.

2017  *The Energy Journal*’s Best Paper Award.

2015  Distinguished Member Award
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2015  Faculty Honoree, Anderson Scholars Program
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2003  Distinguished Service Award, Public Utility Research Center
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2000  Faculty Honoree, Anderson Scholars Program
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1998  Professorial Excellence Program Award, University of Florida.


1992  Research Achievement Award, University of Florida.

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REFEREE/REVIEWER FOR:

Accounting Review  Journal of Economic Behavior and Organization
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American Economic Journals:  Journal of Economic Literature
   Economic Policy, Microeconomics  Journal of Economic Theory
   American Economic Review  Journal of Economics and Business
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Economic and Social Research Council  Journal of Public Economics
Economic Design  Journal of Public Policy and Marketing
Economic Inquiry  Journal of Regulatory Economics
Economics Letters  Management Science
Economic Theory  Managerial and Decision Economics
Energy Economics  Marketing Science
Energy Journal  MIT Press
Encyclopedia of Law and Economics  National Science Foundation
European Economic Review  Nonlinear Dynamics and Systems Theory
European Journal of Operational Research  Oxford Economic Papers
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Harcourt Brace, Publishers  Princeton University Press
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Information Economics and Policy  Quarterly Review of Economics and Business
International Journal of Industrial Organization  Rand Journal of Economics
International Journal of the Economics of Business  Research Grants Council of Hong Kong
International Review of Law and Economics  Research in Labor Economics
Israel Science Foundation  Review of Economic Studies
John Wiley, Publishers  Review of Industrial Organization
Journal of Accounting Research  Review of Network Economics
Journal of the American Statistical Association  Sloan Foundation
Journal of Business  Southern Economic Journal
Journal of Competition Law & Economics  Telecommunications Policy
Journal of Corporate Finance  Utilities Policy
World Bank Economic Review

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2018 – Present  Advisor to DISH Network on Industry Consolidation in the Communications Sector.

2018 – Present  Advisor to INCOMPAS on The Design of Competition Policy in the Communications Sector.

2017  Advisor to DISH Network on Competition Policy in Broadband and Media Markets.

2016  Advisor to Norfolk Southern Corporation on The Design of Access Policy in the Railroad Industry.

2016  Advisor to the Alliance of Automobile Manufacturers on The Impact of Safety Recall Legislation in the Automobile Industry.


2014  Advisor to COFETEL, Mexico’s Telecommunications Regulator on Price Cap Regulation in Mexico’s Telecommunications Industry.


2013  Advisor to AT&T on The Design of Spectrum Auctions.

2013  Advisor to the National Grid Service Company on The Design of Service Quality Standards in the Electricity Sector.
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2013  Advisor to Telefonica on The Design of Price Cap Regulation in Peru.

2011  Advisor to Leap Wireless International on Competition Policy in the Wireless Communications Industry.


2010  Advisor to COFETEL on Competition Policy in Mexico’s Communications Industry.

2010  Advisor to the U.S. Federal Communications Commission on Incentive Regulation and Broadband Deployment.

2009  Advisor to the OECD on Competition Policy in Mexico’s Communications Industry.

2009  Advisor to Afilias on the Design of Policy to Assign Internet Names and Addresses.


2008  Member of Advisory Committee to the “Electronic Health Information Exchange Project,” sponsored by the National Governors Association.

2008  Advisor to United States Cellular Corporation on the Design of Telecommunications Universal Service Policy.


2006 – 2007  Advisor to Earthlink, Inc. on the Design of Telecommunications and Internet Competition Policy.

2006 – 2007  Advisor to Telstra Corporation, Ltd. on the Design of Competition Policy in Australia’s Telecommunications Industry.


2005  Advisor to United Parcel Service on Competition Policy in the U.S. Postal Industry.

August 2018
SELECTED ADDITIONAL EXPERIENCE (CONTINUED):


2004  Advisor to OSIPTEL, Peru’s Telecommunications Regulatory Agency, on the Design of Price Cap Regulation.


2003  Presented Invited Testimony to the President’s Commission on the United States Postal Service.

2003  Advisor to General Communication, Inc. on the Design of Universal Service and Competition Policy.

2001  Advisor to CONATEL, Ecuador’s Central Regulatory Body on the Design of Telecommunications Policy.


1999 – 2000  Advisor to the Antitrust Division of the U.S. Department of Justice on a Proposed Merger in the Communications Industry.


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

In the Matter of
Petition of USTelecom for Forbearance
Pursuant to 47 U.S.C. § 160(c) to Accelerate
Investment in Broadband and Next-Generation Networks

WC Docket No. 18-141

DECLARATION OF WILLIAM P. ZARAKAS

I. Introduction

1. My name is William P. Zarakas. I am a Principal with The Brattle Group, an economics consulting firm, where I work primarily on economic and regulatory matters concerning the communications and energy industries. I have been involved in the economic analysis of issues facing these industries for roughly 30 years. I have provided reports and/or testimony before the Federal Communications Commission (FCC), the Federal Energy Regulatory Commission (FERC), the Securities and Exchange Commission (SEC), the Copyright Royalty Judges (Library of Congress), the U.S. Congress, state regulatory agencies, arbitration panels, foreign governments, and courts of law. I have previously provided testimony to the FCC on a range of issues and proceedings, including the economics and feasibility of deploying broadband networks and competitive analysis with respect to the market for business service data (BDS), market share and churn analyses, cost models, foreclosure and bargaining models, and pole attachments matters. My CV is attached as Attachment A.

2. I understand that USTelecom has petitioned the Federal Communications Commission ("FCC") to forbear from applying the unbundling, resale, and non-discrimination obligations included in Section 251 of the Communications Act ("Act"). Forbearance from Section 251 obligations would mean that competitive local exchange carriers ("CLECs")
would not have access to unbundled network elements ("UNEs") and/or services (that they can resell) from incumbent local exchange carriers ("ILECs") at rates prescribed by state regulatory commissions following the pricing methodologies set forth by the FCC when it implemented the Act. USTelecom represents that the telecommunications market in the U.S. should be considered to be competitive on a nationwide basis and, accordingly, ILECs should no longer be obligated to provide access to their networks at regulated rates. However, should competition be less intense or less ubiquitous than USTelecom asserts, forbearing from Section 251 could instead slow the deployment of broadband infrastructure and, in many geographic markets, impede consumer access to broadband.

3. I have been asked by Counsel for INCOMPAS to use available data to assess whether or not CLECs have, in fact, used UNEs as “stepping stones” in building out their own broadband facilities. Counsel also requested that I examine the benefits that CLECs have provided to consumers (in terms of speed and price) when they use UNEs as components in providing broadband service.

4. I analyzed the business models and service offering for three INCOMPAS member CLECs, together with the scope of facilities that are in place in the census blocks where they currently operate. INCOMPAS has indicated that Mammoth Networks (“Mammoth”) (operating in the western U.S.),1 Socket Telecom, LLC ("Socket") (operating in rural Missouri), and Sonic Telecom, LLC (“Sonic”) (operating in California) are representative of its member CLECs.2 Together, Mammoth, Socket and Sonic provide broadband and other telecommunications services in 24,737 census blocks.3 I used data available from the FCC,4 to determine the degree of facilities-based competition in these locations and to

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1 Specifically in the former U.S. West states (now part of CenturyLink).
2 Mammoth and Socket serve mainly rural areas, while Sonic provides service in urban and suburban California. Socket and Sonic serve a primarily residential customer base, while Mammoth also has a sizable business customer base. Finally, Sonic is one of the larger CLECs that provides service to mass market customers, while Socket and Mammoth are notably smaller.
3 This analysis does not include any census blocks where the CLECs offer services that are not required to be reported on FCC Form 477.
4 Fixed Broadband Deployment Data from FCC Form 477. Per the FCC: all facilities-based broadband providers are required to file data with the FCC twice a year (Form 477) on where they offer Internet access service at speeds exceeding 200 kbps in at least one direction. Fixed providers file lists of census blocks in which they can or do offer service to at least one location within the census block. The most recent dataset available at this time represents the status of broadband deployment as of the end of 2016 (December 2016 v1 dataset).
determine the extent to which the fiber networks have been deployed (by ILECs, CLECs or others). I also examined the largest CLEC in this panel, Sonic, in additional detail. (By itself, Sonic provides service in over 80% of the subject census blocks). I compared Sonic’s fiber deployments to fiber build-outs by the ILECs (mainly, AT&T) that operate in the same census blocks as Sonic. I also compared Sonic’s broadband over copper product offerings with those offered by the ILEC; that is, a comparison of what each offers consumers using the same copper-based facilities, in terms of speed and price.

II. UNE-based CLECs have deployed more fiber in the census blocks where they provide service than the ILECs have.

5. Table 1 summarizes the copper and fiber network options available in the 24,737 census blocks under study. The table indicates that, as expected, the ILEC copper network is ubiquitously present. In addition, the table indicates that, at the end of 2016, CLECs had fiber in place in 8% of the census blocks (2,081 out of 24,737 blocks), while the ILECs trailed, having deployed fiber in 1,595 (6%) of the subject census blocks.

Table 1: Scope of Telecommunications Facilities by Number of Census Blocks (Dec. 2016)

<table>
<thead>
<tr>
<th></th>
<th>ILEC Copper</th>
<th>ILEC Fiber</th>
<th>CLEC Fiber</th>
<th>Cable Fiber</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammoth</td>
<td>61</td>
<td>8</td>
<td>46</td>
<td>1</td>
<td>69</td>
</tr>
<tr>
<td>Socket</td>
<td>3,933</td>
<td>677</td>
<td>698</td>
<td>115</td>
<td>4,402</td>
</tr>
<tr>
<td>Sonic</td>
<td>19,771</td>
<td>910</td>
<td>1,337</td>
<td>198</td>
<td>20,266</td>
</tr>
<tr>
<td>Total</td>
<td>23,765</td>
<td>1,595</td>
<td>2,081</td>
<td>314</td>
<td>24,737</td>
</tr>
</tbody>
</table>

Notes and sources:
The sum of census blocks for a given carrier may exceed the total census blocks under study; e.g., the ILEC may offer both fiber and copper based services in a single census block.

6. shows that the CLECs provide broadband over bare copper UNEs in 97% of the subject census blocks (22,656 with only UNE service and 1,352 with both UNE and fiber service, out of 24,737 blocks) – which provides a method for them to build the customer base necessary for them to fund their fiber networks. However, and importantly, as shown
above, CLECs are migrating from UNE-based services to full facilities-based services by actively deploying fiber, more so than have the ILECs.

7. Table 2 shows that the CLECs provide broadband over bare copper UNEs in 97% of the subject census blocks (22,656 with only UNE service and 1,352 with both UNE and fiber service, out of 24,737 blocks) – which provides a method for them to build the customer base necessary for them to fund their fiber networks. However, and importantly, as shown above, CLECs are migrating from UNE-based services to full facilities-based services by actively deploying fiber, more so than have the ILECs.

Table 2: CLEC Service Provision by Number of Census Blocks (Dec. 2016)

<table>
<thead>
<tr>
<th></th>
<th>UNEs Only</th>
<th>CLEC Fiber Only</th>
<th>Both</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammoth</td>
<td>23 33%</td>
<td>45 65%</td>
<td>1 1%</td>
<td>69</td>
</tr>
<tr>
<td>Socket</td>
<td>3,704 84%</td>
<td>342 8%</td>
<td>356 8%</td>
<td>4,402</td>
</tr>
<tr>
<td>Sonic</td>
<td>18,929 93%</td>
<td>342 2%</td>
<td>995 5%</td>
<td>20,266</td>
</tr>
<tr>
<td>Total</td>
<td>22,656 92%</td>
<td>729 3%</td>
<td>1,352 5%</td>
<td>24,737</td>
</tr>
</tbody>
</table>

Notes and sources:

8. shows that the CLECs provide broadband over bare copper UNEs in 97% of the subject census blocks (22,656 with only UNE service and 1,352 with both UNE and fiber service, out of 24,737 blocks) – which provides a method for them to build the customer base necessary for them to fund their fiber networks. However, and importantly, as shown above, CLECs are migrating from UNE-based services to full facilities-based services by actively deploying fiber, more so than have the ILECs.

9. Table 2 also shows that the smallest CLEC reviewed, Mammoth, to date provides broadband over its own fiber network in 66% of the census blocks in which it provides service. Socket, a broadband provider in rural Missouri, has already deployed fiber in 16% of its census blocks. In terms of sheer scope of investment, Sonic, the largest CLEC reviewed, has built out fiber to over 1,300 census blocks, and has deployed more fiber since then.
III. CLECs use UNEs as a stepping stone to build-out their own fiber facilities.

10. I assessed whether or not CLECs use UNEs as an interim step in building-out their own networks, as intended by the Act, by examining Sonic’s business model and network evolution. Sonic is a comparatively large CLEC, providing internet access and voice services primarily to residential customers in California. Sonic provides its reported services over its own fiber network and through a combination of bare copper UNEs and Sonic digital subscriber line (DSL) equipment. Sonic also utilizes UNE dark fiber transport to connect its network.

11. Table 3 provides a breakdown of the facilities in place across the census blocks in which Sonic operates. There is only one full facilities-based provider (i.e., the ILEC) in 2.7% of the subject census blocks, and only two full facilities-based providers in 91.0% of the census blocks under study. Three full facilities-based providers are in the 1,281 census blocks where Sonic has built-out its own fiber network.

<table>
<thead>
<tr>
<th>Number of Blocks</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILEC Facilities Only (copper and fiber)</td>
<td>549</td>
</tr>
<tr>
<td>ILEC + Cable Facilities</td>
<td>18,380</td>
</tr>
<tr>
<td>ILEC + Sonic Facilities (no cable)</td>
<td>56</td>
</tr>
<tr>
<td>ILEC + Cable + Sonic Facilities</td>
<td>1,281</td>
</tr>
<tr>
<td>Total Census Blocks</td>
<td>20,266</td>
</tr>
</tbody>
</table>

Table 3: Summary of Underlying Loop Facilities in Census Blocks where Sonic Operates (as of Dec. 2016)


5 Roughly 88% of Sonic’s customers are residential, 9% are small business, and 3% are enterprise customers.
6 Declaration of Dane Jasper ¶ 4 (“Sonic Decl.”), attached to Comments of Sonic Telecom, LLC, WC Docket No. 18-141 (filed Aug. 6, 2018).
7 Sonic Decl. ¶ 7.
8 In most cases, the two providers consist of the ILEC and the cable company (18,380 census blocks. However, there are several census blocks in which the ILEC and Sonic both have facilities in place, while there are no cable facilities present (56 census blocks).
9 There are 1,186 census blocks where Sonic alone has fiber facilities in place plus 95 blocks where both Sonic and the ILEC have deployed fiber.
12. Table 4 provides a breakdown of the carriers that advertise broadband services to consumers in the subject 20,266 census blocks at maximum speeds of 25 Mbps (download) / 3 Mbps (upload) or greater. As shown in the table, Sonic is the only provider that offers internet service to consumers at these speed levels in all 20,266 census blocks, and is the only carrier that offers 25/3 Mbps service in 523 of the subject census blocks. There are no blocks in which the ILEC or the cable provider is the only provider offering service at 25/3 or greater. The ILEC meets this minimal level in only half of the census blocks in which Sonic operates. The table also shows that, without Sonic’s fiber and UNE-based broadband services, at this level, consumers would be limited to only one option in half of these census blocks. That is, without Sonic, consumers would be able to receive 25/3 Mbps or greater service from monopoly or, at best, duopoly suppliers, a situation that economists caution can be harmful to consumers.\(^{10}\) Furthermore, without Sonic, consumers in 523 census blocks would not be able to receive 25/3 Mbps service at all.

<table>
<thead>
<tr>
<th>Blocks Served at &gt;=25/3 Mbps</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sonic Only</td>
<td>523</td>
</tr>
<tr>
<td>ILEC + Sonic</td>
<td>82</td>
</tr>
<tr>
<td>Cable + Sonic</td>
<td>9,832</td>
</tr>
<tr>
<td>ILEC + Cable + Sonic</td>
<td>9,829</td>
</tr>
<tr>
<td>Total Blocks</td>
<td>20,266</td>
</tr>
</tbody>
</table>


13. Table 5 shows the pattern of Sonic’s growth as well as the deployment of fiber facilities over time (Sonic versus ILEC) in the 20,266 census blocks, from the end of 2014 through

\(^{10}\) David E. M. Sappington, *Premature, Ubiquitous Forbearance Will Harm Consumers*, at 8 (“Sappington”), attached to the accompanying Opposition as Attachment 1.
the end of 2016. Over this timeframe, the number of census blocks in which fiber facilities are reported to be in place grew by a factor of nearly 80: from 28 census blocks at the end of 2014 to 2,147 census blocks at the end of 2016. Sonic’s deployment of fiber facilities has grown faster than that of the ILECs. The number of census blocks in which Sonic provides fiber-based internet access services has grown by a factor of nearly 50, from 25 at the end of 2015 to 1,237 at the end of 2016 (and it did not have any fiber facilities as of the end of 2014). Over the same period, the number of census blocks in which the ILECs provide fiber-based internet access services has grown from 61 to 810, or by a factor of about 13.

Table 5: Time Series of Census Blocks With Sonic and ILEC Fiber Facilities (2014-2016)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sonic Fiber Only</td>
<td>0</td>
<td>25</td>
<td>184</td>
<td>1,009</td>
<td>1,237</td>
</tr>
<tr>
<td>ILEC Fiber Only</td>
<td>28</td>
<td>61</td>
<td>81</td>
<td>35</td>
<td>810</td>
</tr>
<tr>
<td>Sonic + ILEC Fiber</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>73</td>
<td>100</td>
</tr>
<tr>
<td>Total ILEC + Sonic Fiber</td>
<td>28</td>
<td>86</td>
<td>270</td>
<td>1,117</td>
<td>2,147</td>
</tr>
</tbody>
</table>


14. Table 5 shows since the end of 2015, Sonic has had more fiber facilities in place (in terms of the number of census blocks where it provides services) than the ILECs do. As of the end of 2016, the ILEC has deployed fiber facilities in 910 of the subject census blocks, while Sonic has deployed fiber in 1,337 census blocks.

15. Figure 1 shows the extent to which Sonic’s fiber network has grown (in terms of number of census blocks reached). There are few areas of overlap in the deployment of fiber facilities: at the end of 2016, Sonic and the ILEC had fiber facilities in only 100 of the same census blocks, or 7% of the census blocks where ILEC or Sonic fiber facilities were present (see also Table 5). The figure shows a sharp increase in the ILEC fiber build-out in

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11 This is the timeframe covered by historical FCC 477 datasets publicly available at the time of filing (https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477). It does not include subsequently deployed fiber; Sonic has deployed substantial additional fiber since December 2016. Sonic Decl. ¶ 9.
2016, which may at least in part be a response to Sonic’s ongoing fiber build-out, and suggests that ILECs are following Sonic in a race to deploy fiber in these census blocks.

**Figure 1: Sonic vs. ILEC Deployment of Fiber in Census Blocks where Sonic Operates (2014-2016)**


16. Sonic has been able to expand its fiber network because UNEs were available as a stepping stone. It is well known that the economics of broadband networks require some assurance of a customer and revenue base. Unlike the ILECs which built out their networks as monopoly providers under a rate of return regulatory regime, few if any competitive operators – including ILECs with respect to markets outside of their footprint – can afford to build-out networks on a fully speculative basis.\(^\text{12}\) Analysis provided to the FCC as part of the BDS proceeding made it clear that a CLECs cannot profitably build-out their own networks unless there is sufficient density and it can gain sufficient market share to cover

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CLECs like Sonic have used UNEs to gradually develop their market shares to a level which enables them to justify funding the build-out of their own networks.

17. These data support the CLECs’ observations concerning the important role that UNEs play in building their own fiber networks. The presence of a third facilities-based competitor in 1,307 census blocks (see Table 1) would almost certainly not have happened if not for the availability of UNEs. For Sonic, UNEs served to effectively lower the barriers to entering facilities-based competition, and advanced the FCC’s objectives of enhancing investment in broadband networks.

18. In addition, as highlighted in Professor Sappington’s declaration, reliance on UNE-based services is not a viable long-term option for CLECs like Sonic – if they want to remain in business. Under existing rules, ILECs will eventually upgrade their networks to fiber and retire their copper-based networks, at least in geographic areas with moderate population densities, which will mean that bare copper UNEs will not be available for CLECs to lease indefinitely. Furthermore, the presence of fast fiber-based internet access service will make DSL-based services much less attractive to customers. As Professor Sappington has indicated, for these reasons “CLECs cannot view UNEs as a long-term substitute for their own fiber investment. Instead, they must view UNEs as a transitional means to reduce the risk associated with investment in their own fiber network.”

IV. CLECs are providing faster broadband speeds over the ILEC’s copper network than the ILECs are themselves. In the absence of UNEs, customers either might not have access to or would have to pay much more for comparable products.

19. As indicated above, ILECs use their copper network to provide DSL in the vast majority of the 20,266 census blocks under study. DSL bandwidth speeds are determined, in part, by the equipment which is attached to the copper line over which the DSL operates. Sonic has

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14 Sappington at 16.
demonstrated faster internet speeds than the ILECs have, in the same census blocks and over the same ILEC copper-based network.

20. We used FCC Form 477 data to compare the internet access speeds advertised by Sonic and by AT&T (the main ILEC in Sonic’s service territory) for the census blocks in which Sonic operates. Figure 2 makes the comparison between the fastest products available from each provider in each of the 20,266 census blocks. The figure shows the difference between internet access speeds offered by Sonic and AT&T, ranked by magnitude of the difference. Positive differences indicate that Sonic’s maximum advertised product speed is faster than AT&T’s, while negative differences indicate that Sonic’s maximum advertised speed is slower.

Figure 2: Speed of Fastest Advertised Sonic UNE DS0 Product vs. Fastest Advertised ILEC (AT&T) Product Alternative

Notes and sources: Internet access service speeds are for the highest advertised available speed product from each provider by census block, over copper wire or via UNEs. Data from FCC Form 477, December 2016 v1. Analysis by The Brattle Group.

21. As indicated in the figure, Sonic’s advertised product speed is faster than AT&T’s advertised speeds in nearly all census blocks, with a difference of more than 5 Mbps in

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15 Actual speeds to which individual customers subscribe may be different than the advertised and available speeds.
approximately 63% of census blocks. Sonic explained that its product speed advantage results from the use of “bonded pairs”\(^\text{16}\) as well as its deployment of faster DSL technologies.\(^\text{17}\) Also, Sonic has represented that in some cases its product speeds as shown in the FCC’s data may understate the actual speeds delivered to customers.

22. Sonic has also been able to provide its DSL broadband services at lower prices than AT&T. Eliminating the current UNE pricing regime would almost certainly result in an increase in the prices that Sonic would have to pay to lease these circuits. Sonic currently pays roughly $11.67 per line per month to lease UNE DS0s to provide its Sonic Fusion product to customers and two times this amount ($23.34) for bonded pairs. Sonic indicated that its next best option, if UNEs were unavailable, would be under commercial wholesale arrangements through the AT&T Partner Exchange (APEX),\(^\text{18}\) which would cost ***BEGIN CONFIDENTIAL ******** END CONFIDENTIAL***.\(^\text{19}\)

23. The increase in costs under the APEX arrangements would account for roughly ***BEGIN CONFIDENTIAL ******** END CONFIDENTIAL*** of Sonic’s current prices for the majority of its customers.\(^\text{20}\) Sonic would have to pass these costs onto its customers, absorb some or all of this cost increase (thereby significantly reducing its margins), or both. Such an increase in costs could effectively dismantle leasing as a stepping stone and impede the deployment of CLEC fiber networks – either by driving customers away from Sonic or by reducing Sonic’s cash flow and ability to fund network investments. Under either case, consumers would be harmed.

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\(^{16}\) Pair-bonded service uses two copper UNEs to the premise, which serves to double the speed of the broadband connection.

\(^{17}\) Sonic represented that its faster DSL speeds are also the result of its use of VDSL2 in all central office locations, and its use of ADSL2+ as a fallback when longer reach is needed. Sonic Decl. ¶ 4.

\(^{18}\) AT&T’s wholesale product is AT&T Internet Access, available under a platform referred to as the AT&T Partner Exchange (APEX).

\(^{19}\) UNE DS0 rates and estimated replacement AT&T wholesale product prices were provided by Sonic.

\(^{20}\) Sonic represented that it currently charges residential customers between $50 and $70 per month. That is, $50 per month for its most popular “Fusion” service, plus $20 per month for faster speeds with pair bonded service. Sonic Decl. ¶ 3. The percentage of cost increases relative to Sonic prices would be less for the ***BEGIN CONFIDENTIAL ******** END CONFIDENTIAL*** of Sonic customers that receive service over bonded pairs.
I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

William P. Zarakas 08/06/18
Date
William P. Zarakas is a Principal with The Brattle Group, an economics consulting firm, and an expert on economic, strategic and regulatory matters involving the energy, telecommunications and media industries. His main area of work and research involves the economics of infrastructure deployment and network development, market and competitive analysis and the alignment of regulatory frameworks with policy goals and business models. Mr. Zarakas has also led the Brattle team in analyzing the competitive and economic impacts of recent telecom and media mergers, has conducted valuations of telecom businesses and spectrum, and estimated royalties and retransmission fees in the cable and satellite television industries. He also heads Brattle’s retail energy practice, which covers Brattle’s work in aligning evolving utility business, and regulatory frameworks and performance based regulation.

Mr. Zarakas has provided testimony and expert reports before the Federal Communications Commission, the Federal Energy Regulatory Commission, the Securities and Exchange Commission, the Copyright Royalty Judges (Library of Congress), the U.S. Congress, state regulatory agencies, arbitration panels, foreign governments and courts of law. He has led (and authored reports concerning) special investigations on behalf of corporate boards of directors and audits of management practices and operational and financial performance on behalf of regulatory commissions. He holds an M.A. in economics from New York University and a B.A., also in economics, from the State University of New York.

Broadband Modeling and Business Planning


- Directed comprehensive financial analysis for a U.S. national broadband provider including: developing projections of demand, price elasticities, revenue and capital and operating costs, and pricing points.

- Performed comprehensive business case analysis of entry into the broadband market (including voice, internet access and video services) on behalf of a major U.S. electric utility. Scope of work included technology assessment and detailed financial modeling. Work included customer and geographic segmentation, pricing scenarios and elasticity analysis.

- Led comprehensive financial analysis concerning the deployment of a broadband communications network for an Asian electric utility. Related work included assessing transfer pricing methodologies regarding the use of utility assets, resources and easements by the broadband affiliate.
Directed and led analysis of business diversification for multiple electric utilities. Business opportunities analyzed included dark fiber construction and third party use of utility poles, towers and conduit. Scope of analysis included financial modeling and transfer pricing.

Competition Analysis

Directed comprehensive analysis and provided testimony concerning market shares, vertical foreclosure and Nash bargaining in the Application of Comcast Corporation, General Electric Company and NBC Universal, Inc. for Comcast to Assign or Transfer Control of Licenses, Before the Federal Communications Commission, MB Docket No. 10-56. (December 2014 and March 2015).


Directed analysis and authored report regarding the effects of changes in regulatory fees and taxes on mobile prices, penetration and the macro economies of 22 countries in the Middle East and Africa. Study, conducted on behalf of a major mobile operator, involved detailed analysis of the relationships between marginal cost and prices, market structure and concentration, and empirical relationships concerning mobile penetration and GDP.

Led analysis and authored expert reports concerning prospective merger savings and divestiture losses for electric and gas utilities. Scope of work included analyses involved in determining the operating and capital impacts of mergers under multiple scenarios, and also involved the anticipated economic inefficiencies resulting from forced divestiture. Reports authored included studies of merger efficiencies and reports concerning Economic Loss Studies included in U-1 filings before the U.S. Securities and Exchange Commission. Economic Loss Studies are required under PUHCA Section 11 (b) (1) Clauses A, B, and C when utility merger results in the establishment of a registered holding company with electric and gas businesses. Work in these areas included detailed analyses of current and hypothetical future electric and gas utility operations.

Spectrum Valuations

Conducted analyses and authored expert report estimating value of Mobile Satellite Service (MSS) spectrum (i.e., the 2 GHz Band from 2000-2020 MHz and 2180-2200 MHz, the Big LEO from 1610-1626.5 MHz and 2483.5-2500 MHz, and the L-band from 1525-1559 MHz and 1626.5-1660.5 MHz) in several matters, including matters involving the Terrestra
bankruptcy. Analyses included impact of incorporating FCC authorized ancillary terrestrial component (ATC) into MSS mobile broadband networks.

- Analyzed spectrum values in the 2.3 and 2.5 GHz bands for the U.S. market.
- Analyzed value of Advanced Wireless Services (AWS; 1.7 / 2.1 GHz) band for the U.S. market.
- Analyzed value of unpaired 2.1 GHz spectrum for the U.S. market.
- Analyzed value of 2.3 GHz (WCS) 3.5 GHz (FWA) spectrum in Canadian market.
- Authored report concerning market comparable analysis of U.S. PCS market.
- Provided expert testimony concerning potential value of wireless spectrum in the 700 MHz band.
- Analyzed value of Specialized Mobile Radio (SMR) and Private Land Mobile Radio Services (PLMRS) spectrum on behalf of utility operating companies in the U.S. market.
- Analyzed value of narrowband PCS and IVDS spectrum portfolio.
- Directed, led analysis and authored report concerning valuations of wireless spectrum in the Middle East-North African (MENA) region for an international wireless operator.
- Directed, led analysis and authored report concerning impact of additional wireless operators on spectrum values for the telecommunications regulator in the Kingdom of Jordan.

**Utility Business Models and Investment Analysis**

- Advised New York’s Reforming the Energy Vision (REV) architects (i.e., the NYPSC chair and NYSEIDA leads) on implementation and utility transformation issues. Led comprehensive modeling and scenario analysis concerning the impact of distributed energy resources (DERs) on utility sales, revenues, capital and operating cost structures and financing, and on utility rate base and customer rates and bills. Project also involved developing scenarios for energy and related service based transactions occurring over a utility platform and the most appropriate scope of a platform in the near term.

- Modeled and advised New York’s six investor owned utilities on matters relating to regulatory incentive structures. The New York REV created earnings adjustment mechanisms (EAMs) intended to provide a bridge from the traditional regulatory model to a (still evolving) next generation model. The State’s utilities are responsible for specifying the new EAMs. Brattle worked with the utilities to design EAMs and also conducted scenario
analysis that projected likely outcomes in key REV areas (e.g., peak reduction, asset utilization and integration of DERs).

- Led strategic analysis of next generation (i.e., utility of the future) regulatory frameworks for a Midwestern electric utility. Specifically, Brattle was asked to opine on the future of utility platforms (highly transactive two-sided markets vs. less transactive / more informational) recommend the appropriate regulatory framework for the near to intermediate term. Brattle’s analysis included a review of DER feasibilities and transactive platform requirements. It also included a comprehensive assessment of regulatory incentive frameworks, including performance based regulation and the U.K.’s RIIO model.

- Led system reliability and resilience investment analysis for a large combination electric and gas utility. Customer concern (and political pressure) following a series of weather-induced large scale and long duration outages led to the utility developing an extensive and relatively expensive resilience investment program. Brattle advised the company on benefits and costs, and employed a value of lost load (VOLL) methodology to estimate customer willingness to pay for higher reliability in extreme circumstances. The company modified the scope of its investment program accordingly. Brattle analysis and reports were also included in the company’s regulatory filings. (Public Service Electric & Gas (PSE&G) in NJ BPU Docket No. EO13020155 and GO13020156)

- Advised board of trustees and executive management on strategic and organizational direction for the Long Island Power Authority (LIPA). LIPA assumed a municipal corporate structure following the decommissioning of a nuclear power plant. The utility had among the highest rates in the U.S. and the lowest customer approval ratings. Brattle was retained to advise the utility and the Governor’s office on ways to improve cost structure (e.g., through privatization, municipalization and outsourced management services arrangements) and ways to better understand and meet customer needs (e.g., community energy programs and resilience improvements). Options were evaluated based on rate impacts and risk factors, including risks associated with organizational transformation. Project required extensive modeling of LIPA operations and financing scenarios, as well as analysis of power and transmission markets.

- Advised board of directors of a major generation and transmission (G&T) cooperative and its member electric distribution cooperatives on matters concerning: asset valuations, risk management strategy, merger and acquisition options, and outlook for retail electric markets.
Cost, Rate and Incentive Analyses


- Directed and provided expert testimony on price cap frameworks and productivity analysis applied to telecommunications business data services (BDS, previously referred to as special access) in proceedings before the U.S. Federal Communications Commission. WC Docket No. 16-143, WC Docket No. 15-247, WC Docket No. 05-25, RM-10593.


- Directed comprehensive modeling and analysis and provided testimony in multiple U.S. state regulatory proceedings concerning analysis of rates for unbundled network elements (UNEs), undertaken in fulfillment of requirements associated with the Telecommunications Act of 1996, using the Total Element Long Run Incremental Cost (TELRIC) methodology.

- Led analysis and provided testimony concerning incentive systems to be applied to incumbent local exchange telephone carriers (ILECs) on behalf of the New York State Department of Public Service; involved modeling determining total factor productivity (TFP)
based on empirical analysis and consideration of projected performance improvement initiatives.

- Conducted cost-of-service and marginal cost analyses for an international broadband company spanning the U.S., European and Asian markets.

- Directed cost of service and feasibility analysis for a municipality planning on deploying a broadband Wi-Fi network.

- Directed analysis and authored white paper on empirical analysis concerning the impact of changing the price of wholesale access and levels of investment in the U.S. telecommunications market. Results reported in white paper entitled: “Structural Simulation of Facility Sharing: Unbundling Policies and Investment Strategy in Local Exchange Markets.”

**Arbitration, Special Investigations and Commercial Litigation**

- International Arbitration (satellite communications): Authored expert report concerning the impact of an alleged breach of contract on lost profits in a 23 country business operation concerning a satellite communications business. Performed detailed financial modeling to determine revenues, net income and net present value using risk adjusted discount rates for a satellite service provider.

- Forensic Analysis and Special Investigation: Directed consulting team and authored report for the forensic analysis of the economics, financial reporting and accounting associated with allegation of accounting and financial improprieties by Global Crossing. Worked on behalf of the Special Committee on Accounting Matters composed of a subset of (and reporting to) the Board of Directors of Global Crossing Ltd. Analysis involved determination of basis for revenue recognition for concurrent (i.e., “swap”) transactions. Analysis included in report by the Special Committee entitled “The Concurrent Exchange of Fiber Optic Capacity and Services Between Global Crossing and its Carrier Customers.” January 2003.

- Commercial Litigation: Directed expert consulting team in litigation matter concerning the deployment schedule of bandwidth on a major undersea cable project. Case involved allegations of breach of contract. Case work involved modeling of undersea fiber optic bandwidth in major undersea crossings and financial analysis of project viability.

- Forensic Analysis and Securities Litigation: Directed consulting team and led technical analysis concerning accounting and financial disclosure on behalf of the defendant in a class action against corporate officers, directors, controlling shareholders and the company’s

- **Special Investigations and Audits:** Directed project teams, led technical analysis and authored reports in multiple special investigations and audits of management, operations and finance and accounting on behalf of regulatory utility commissions. Special investigations and audits involved allegations of improper cross subsidization and/or transfer pricing practices by regulated utilities (telecommunications, electric and/or natural gas) and their effect on rates charged to consumers. Special investigations and audits were conducted for regulatory commissions in Alabama, Kentucky, Maryland, New York and Pennsylvania.

- **Commercial Litigation (broadband communications):** Provided expert testimony concerning the estimate of commercial damages stemming from an alleged breach of contract associated with relocating infrastructure assets. Public Service Company of New Mexico vs. Smith Bagley, Inc. and Lite Wave Communications LLC In The United States District Court For The District of New Mexico. March 2007.

- **Commercial Litigation (wireline communications):** Developed analysis and supported expert testimony concerning damages associated with cable breaks and disruption of wholesale transport services. Analysis involved estimating lost profits and determining replacement cost of temporarily lost capacity. MCI WorldCom Network Services, Inc. v. MasTec, Inc. before the United States District Court Southern District of Florida, Case No. 01-2059-CIV-GOLD. May 2002.

**TESTIMONY**

Declaration of William Zarakas and Eliana Garces In the Matter of beIN Sports, LLC, Complainant, v. Comcast Cable Communications, LLC and Comcast Corporation, Defendants, MB Docket No. 18-90.

Declaration (August 7, 2017) and Reply Declaration (August 29, 2017) of William P. Zarakas and Jeremy A. Verlinda Before the Federal Communications Commission In the Matter of Tribune Media Company (Transferor) and Sinclair Broadcast Group, Inc. (Transferee), Consolidated Applications for Consent to Transfer Control, MB Docket No. 17-179


“Review and Analysis of Service Quality Plan Structure In The Massachusetts Department of Public Utilities Investigation Regarding Service Quality Guidelines For Electric Distribution Companies and


Expert report provided in Public Service Company of New Mexico vs. Smith Bagley, Inc. and Lite Wave Communications LLC In The United States District Court For The District of New Mexico. March 2007.


Direct testimony before the Federal Communications Commission in the matter of Petition of ACS of Anchorage, Inc. Pursuant to Section 10 of the Communications Act of 1934, as amended, for Forbearance from Sections 251(c)(3) and 251(d)(1) In the Anchorage LEC Study Area, WC Docket No. 05-281, January 9, 2006.

William P. Zarakas


Direct Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Florida Public Service Commission, Docket Nos. 960757-TP/960833-TP/960846-TP/960916-TP/971140-TP, Filed November 13, 1997; In Re: Petition of AT&T, MCI, and MFS for Arbitration with BellSouth Concerning Interconnection, Rates, Terms and Conditions of a Proposed Agreement.

Rebuttal Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Tennessee Regulatory Authority, Docket No. 97-01262, Filed October 17, 1997; In Re: Contested Cost Proceeding to Establish Final Cost Based Rates for Interconnection and Unbundled Network Elements.

Direct Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Tennessee Regulatory Authority, Docket No. 97-01262, Filed October 10, 1997; In Re: Contested Cost Proceeding to Establish Final Cost Based Rates for Interconnection and Unbundled Network Elements.

Rebuttal Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Alabama Public Service Commission, Docket No. 26029, Filed September 12, 1997; In Re: Generic Proceeding: Consideration of TELRIC Studies.


Rebuttal Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Louisiana Public Service Commission, Docket Nos. U-22022/22093, Filed September 5, 1997; In Re: Review of Consideration of BellSouth Telecommunications, Inc.’s TSLRIC and LRIC Cost Studies to Determine Cost of Interconnection Services and Unbundled Network Components, to Establish Reasonable, Non-Discriminatory, Cost-Based Tariff Rates.

Direct Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Alabama Public Service Commission, Docket No. 26029, Filed August 29, 1997; In Re: Generic Proceeding: Consideration of TELRIC Studies.

Direct Panel Testimony of William P. Zarakas and D. Daonne Caldwell before the Louisiana Public Service Commission, Docket Nos. U-22022/22093, Filed July 11, 1997; In Re: Review of Consideration of BellSouth Telecommunications, Inc.’s TSLRIC and LRIC Cost Studies to Determine Cost of Interconnection Services and Unbundled Network Components, to Establish Reasonable, Non-Discriminatory, Cost-Based Tariff Rates.


Direct and rebuttal testimony Before the Virginia State Corporation Commission on behalf of United Telephone - Southeast, Inc. and Centel Corporation, May 1994.


Direct and rebuttal testimony Before the Tennessee Public Service Commission on behalf of South Central Bell, Docket Nos. 92-13527 and 93-00311, March 22 and March 29, 1993.

PAPERS AND PUBLICATIONS


"Finding the Balance Between Reliability and Cost: How Much Risk Should Consumers Bear?,” by William P. Zarakas and Johannes P. Pfeifenberger, presented at the Western Conference of Public Service Commissioners, Santa Fe, NM, June 3, 2013


“Measuring Concentration In Radio Spectrum License Holdings,” presented at the Telecommunications Policy Research Conference (TPRC), George Mason University, September 26, 2009 (with Coleman Bazelon).


“Betting Against The Odds? Why broadband over power lines (BPL) can’t stand alone as a high-speed Internet offering,” *Public Utilities Fortnightly*, April 2005, pp. 41-45 (with Kenneth J. Martinian).


ATTACHMENT 3
In the Matter of

Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks

WC Docket No. 18-141

DEVELOPMENT OF JOHN HOEHNE

1. My name is John Hoehne. I serve as Chief Operating Officer at Access One, Inc. I have been with the company for ten years. All functions of the business report to me: Engineering, Operations, Sales, Marketing, HR, Technology Services, Finance, and Legal/Regulatory.

2. Access One offers voice, broadband internet, Unified Communications as a Service (“UCaaS”), and technology infrastructure management services primarily to small and medium-sized businesses (“SMB”) across the country, but most significantly in Illinois, where we are headquartered. In addition to businesses, we also serve non-profit organizations, schools, libraries, and governmental entities.

3. Access One offers a unique combination of services to our customers. We offer traditional internet and voice services, along with management of all the adjacent services, including UCaaS, management of LAN devices, IT helpdesk services, Cloud Infrastructure and hosted services, Disaster Recovery, and Digital Security. Our goal is to provide world-class technology services in an easily consumable way for SMB—so that they can focus on what’s important for their business.

4. Access One also provides wholesale (resale) of its facilities to several Chicago-based telecommunications companies.
5. Access One uses UNE services to provide last mile transport of telecommunications services to its customers. Those services are provided over DS1 and DS3 UNE loops and range from 1.5 Mbps dedicated internet access and traditional or integrated access PRI to high-bandwidth Ethernet over Copper (EoC) via unbundled DS0s. Approximately 2500 of our customer locations are served in whole or in part over UNEs. These UNE facilities are connected to our transport network, which connects Incumbent Local Exchange Carrier (“ILEC”) central offices to Access One data centers. Access One also resells fiber and coax-based Ethernet services to new and existing clients.

6. Using DS0 UNEs as components of an EoC solution, Access One offers broadband speeds to enterprise customers of up to 100 Mbps download and 100 Mbps upload. EoC is a crucial product for small businesses, because it provides the high-bandwidth capacity and reliability necessary to rely upon cloud-based applications, without the high costs of a fiber deployment. For the foreseeable future, EoC will be the most (often only) cost-effective way for small business in many areas to use the Internet in a fully modern way—meaning reliance upon cloud-based applications, fulsome disaster recovery, and security.

7. The use of UNEs enables the Company to provide end-to-end technology infrastructure management for SMB—essentially delivering a world-class, enterprise-grade experience to vastly smaller organizations. UNE services allow the Company to cost-effectively build national private networks for its customers, and to provide real competition in underserved urban, suburban, and rural areas where, without UNEs, there would be no competitor to the ILEC. The reach provided by cost-effective access to UNE DS1s/DS3s is particularly important for businesses with locations that span multiple ILEC footprints, and significant security/compliance needs. Without UNE services, the secure networks that these businesses require will become substantially more expensive, and potentially unavailable as a truly private network. The need for
the competition provided by UNE DS0s to enable EoC services is crucial to SMB, because of a gap in ILEC offerings for SMB. At the low end, there are DSL-based ILEC services that come with a level of support that isn’t suitable to run an actual business. At the other end of the spectrum, are high-priced fiber services, that can include six-figure build-out costs (or simply be unavailable). EoC services, provided by Access One and other CLECs, transported by UNE DS0s, are the right combination of speed and price for SMB, and are supported with the care and attention required by business customers.

8. An example of this is Access One customer, Human Resource Development Incorporated ("HRDI"), a social services organization with 26 locations across the country. HRDI serves the addicted and mentally ill, and provides social and family services to poor populations. It has locations both urban and rural, many of which are halfway houses with lower bandwidth needs, but network needs all the same. It is a cost-conscious operation. Access One was able to construct a private network for HRDI that met its needs for voice service transport, MPLS capability and reliability, and at a price the organization could afford. The network was highly reliant on UNE facilities—from places like Dothan, Alabama to underserved areas of Chicago’s south and west sides. UNE facilities have also enabled Access One to meet the cost and service needs of Catholic Charities in northern IL. The Company provides traditional voice services to 28 Chicago locations for Catholic Charities, often in urban areas where CLECs are the only competitive choice for traditional communications services. The UNE Forbearance Petition being advanced by USTelecom ("USTA", AT&T + Verizon) would have a substantial impact not just in rural areas, but also urban and suburban areas where last mile competition has not emerged.

9. The loss of access to UNEs would affect the Company’s ability to continue to provide service. Specifically, price increases would need to be passed through to customers. Access One is not in position to absorb the level of price increase incurred in a move from a
competitive, UNE-based market to a monopolistic (duopolistic in some areas), special access-based market. If the only available last mile facilities available are special access, it is conceivable that the ILEC could undercut special access rates (by offering the same or higher rates to wholesale than retail), effectively ending competition of any type for these services. It is likely that companies similarly situated to Access One would fail within months of the implementation of UNE forbearance, causing notable job losses in the CLEC industry (possibly all of the jobs in the CLEC industry, which was born of the Telecom Act of 1996, which the Petition seeks to overturn). There may be some consideration that AT&T and its cohort will add jobs in broadband in the wake of the Petition’s termination of competition. On a net basis, and in the US, this is unlikely: AT&T and its peers employ people to act as account management for the CLEC industry that this Petition would decimate. Post-petition, they would need fewer of those people. Today, for fiber optic services leased from AT&T, my AT&T project management team is based in Eastern Europe. So it seems that AT&T would need fewer US-based account management people for CLECs/wholesalers, but may add some project management staff in Eastern Europe. The actual result of the Petition will only be substantial price increases and job losses. The market price of the most basic services could increase as much as 300% from today’s competitive market rates (based on a CLEC-provided T1 PRI including a mileage component, at special access rates). The same is true of POTS lines—today’s CLEC prices for POTS will move from less than $50, to $125/line or more. Businesses will not stand for these types of increases, causing massive, unnecessary disruption in the market. Based on experience with ILEC fiber services, the expectation must be that the ILECs will simply put their competition (CLECs) out of business by pricing wholesale substantially greater than retail. With the level of price increase the petition would cause, there would be a “race to the exits” for TDM services for SMB—the scope of the exodus would be much larger than what the ILECs could handle in a reasonable time frame, and in
most instances, there wouldn’t be a realistic competitive option for SMB. Progress from TDM to next-generation networks continues to accelerate—there is no need to artificially end-date this market-driven process.

10. DS0 copper loops, and in particular the xDSL-conditioned copper loop, are critical inputs to the Company’s network. Unlike a commercial offering such as a special access service, DS0 copper loops do not include ILEC electronics that determine what services can be offered over the loop. Rather, the Company can deploy its own electronics on either end of the DS0 loop. In this way, the Company can customize and control the services provided over the loop, including service quality and security. Many of our customers, including SMB, health care providers, banking customers, and governmental entities, have specific service requirements (in terms of affordable, high-bandwidth, private-network solutions) that Access One could not meet without Ethernet over Copper (using unbundled DS0s, which would be forborne). Cable internet services are often touted as a replacement for EoC, however, the response times of the cable companies to an outage are not suitable to businesses that are reliant on cloud services. If a customer’s full suite of applications is hosted in the cloud and its cable-based internet connection is lost, it can be a day or longer until service is returned. For that period, the customer is essentially unable to do business. This is not a workable situation for most businesses. Access One answers each call with a US-based human being, prioritizes its workload based on issue severity, and strives for closure in two hours. We provide a vastly different level of service and sense of urgency than SMBs experience with ILECs or cable companies.

11. For other UNE loops such as DS1s and DS3s, commercial offerings like special access services or other business data services may be available. However, they are substantially more expensive. In Illinois, where Access One would be most affected, UNE DS1 tails sell for a maximum of $54, without a service term. A monthly term special access DS1 service costs $250
to $320, depending upon the zone of the service address. Access One would pass on 100% of the increase in cost to customers, which would represent an increase in the market price of service of up to 150%. Similarly, DS1 and DS3 transport services may be available, but at a substantially higher cost. Unbundled DS1 interoffice transport is combined with UNE loops to provide Enhanced Extended Lines, or “EELs”—the loss of UNE transport would eliminate the availability of EELs, which Access One uses to reach customers at wire centers where Access One does not yet have equipment. In Illinois and the rest of the Midwest, AT&T cost increases from UNE to Special Access/BDS pricing (on a Month-to-Month basis) is roughly 1000% higher (the increase in transport costs for 10 miles of interoffice DS1 transport goes from $54 (2 CMTs @ $17 each, plus 10 interoffice miles at $2/mile) to about $520, depending on zone). Access One would clearly be forced to attempt to pass through the price increase to its customers. Keep in mind that this is only the increase in transport cost—the loop increase described above would be additive—meaning the total cost increase could be $750 for a service that today sells for $200. This price increase would disproportionately affect those with the fewest competitive options—anyone with the ability to change to a non-TDM (or at least non-CLEC) service would clearly do so.

12. The loss of UNEs would also have a serious negative impact on our customers. All businesses using TDM based services (millions of SMBs) would face substantial rate increases, starting with the approval of the Petition, and culminating in full forbearance, at which point, market forces and a return to monopolistic competition will increase rates even further (as described in detail for UNE DS1 services, above). Resale POTS prices would triple, or more.

13. Many of Access One’s business and non-profit customers would be forced back to AT&T/Incumbent services, because there is no competitive provider of access service to their location, other than CLECs (whose services would disappear or become unworkably expensive upon forbearance).
14. Social services, public, and educational institutions would suffer the most. Particularly hard hit would be Access One customers like Catholic Charities, Lutheran Child and Family Services, Mooseheart Child City (orphanage), Oak St. Health, Loretto Hospital, and CGH Hospital, several of which are located in underserved urban areas and would have no choice in communications were it not for CLEC/UNE competition. Our customers also include school districts: Cass, Waukegan, Lake Park, and Libertyville Public School District, all locations for the Noble Network of Charter Schools, and individual schools, including high schools like Hersey, Prospect, Rolling Meadows, Buffalo Grove, and St. Viator. We also serve public libraries via UNE and resale services, including Joliet, Elk Grove, Homewood, Mokena, St. Charles, Lake Bluff, Highland Park, Frankfort, and Lisle. Access One also serves many offices of local government via UNE services.

15. Access One is selected by non-profits, government, and educational institutions because we provide exceptional value—the foremost example of that value is the dedicated account manager assigned to their accounts. Organizations of this type can’t always afford to staff all of the technology personnel that they may need. They appreciate access to our account management and technical staff for guidance on their technology infrastructure, whether a part of their core, UNE or resale-related service or not. They also appreciate that Access One will do whatever it takes to meet their needs. Custom-tailored solutions are one of our distinct advantages over ILEC competition. Our customers want to work with a company that is part of their community—we contribute to their charities, join them at their golf-outings or 5k runs, and we “drop by” when we’re near their locations to check on their service experience. Though competitively priced, Access One is rarely the least expensive option—we’re selected because our customers want custom solutions and personalized attention.
16. For some customers, the transmission of sensitive data would be affected. Multi-location, multi-state networks are a core competency of Access One. To tie together far-flung locations, Access One often uses UNE last-mile services to build a network that touches the footprint of multiple incumbents, using multiple access technologies, depending upon what is available at that location. Unfortunately, for many locations, only TDM/UNE access is available at a price point that meets the customer’s needs. The USTA Petition will force customers to choose between stranded locations and a hodge-podge of carriers, or paying exorbitant prices to CLECs to manage their networks (due to the elimination of UNE services).

17. One item that is lost in the Petition is that competitive access to business (and consumer) locations is essentially on an address by address basis. The level of competition for telecom access services on a few blocks occupied by skyscrapers doesn’t have any bearing on the level of competition in other parts of a city or its surrounding suburbs. In the past, a more thoughtful method for forbearance had been pursued, by measurement of competitive access within a wire center’s service area.

18. The ability to offer Resale services (prospectively forborne by the Petition) has been a great asset to our customers, especially those using ‘next generation’ services.

a. Resale POTS lines—really the base unit of telecommunications—are still an important service for two reasons:

i. 1) they supply their own power, and 2) they are more reliable than using an ATA for the transit of analog signals over an IP connection. That POTS lines supply their own power is crucial to how they are used in business today. IP communications services do not supply power. In the event of a power failure, IP communications are useless. POTS lines, however, will continue to operate, which is critical for elevator
and alarm lines. Many small businesses also use POTS lines as a
dualsafe against issues that arise with their primary, IP-based phone
services (to ensure the ability to receive customer calls, or call 911 in
the event of a power outage).

ii. IP-based connections that connect to an ATA for the conversion and
transmission of an analog signal (primarily fax machines), offer a
substandard experience. Many businesses—especially in the legal and
healthcare verticals—rely heavily on faxing. Truly reliable faxing for
high-volume users over an IP connection does not exist. For these
customers, POTS/TDM fax lines are essential.

b. Access One’s retail rate for a fax line in Illinois is $45. AT&T’s tariff price for the
same service is $125. Over the last roughly six years, Access One’s cost for a POTS
line in IL has increased around 400%. At this point, any business that can use a
different option does so (our UCaaS solutions are about ½ the price/line, including far
more functionality). Until AT&T actually begins to retire its copper network in a
thoughtful and incremental way, why should the FCC move to abruptly eliminate
choice and increase prices on businesses for whom there is no equivalent technological
service and no viable wholesale alternative? AT&T and Verizon have taken full
advantage of section 271 of the Act. Their entry into long-distance services (coupled
with their wireless assets) essentially ended any consumer-driven competition for LD.
Now that they’ve successfully taken over that market, they seek to eliminate the
requirements of section 271 that were intended to ensure some level of competition for
local service—they will have their cake and eat it, too.
I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

Johnston Thomas Hoehne  
COO, Access One, Inc.  

8/3/18  
Date
ATTACHMENT 4
In the Matter of )
Petition of USTelecom for Forbearance ) WC Docket No. 18-141
Pursuant to 47 U.S.C. § 160(c) to Accelerate )
Investment in Broadband and Next-Generation )
Networks )

DECLARATION OF DOUGLAS DENNEY

1. My name is Douglas Denney. I serve as Vice President, Costs & Policy at Allstream Business US, LLC (“Allstream”), a wholly owned subsidiary of Zayo Group, LLC (“Zayo”). I have been with the company for 14 years. I am in charge of the legal department at Allstream. My responsibilities, among other things, include negotiating interconnection agreements with incumbent local exchange carriers (“ILEC”). I also participated in most of the unbundled network element (“UNE”) cost cases before the state public utility commissions in the CenturyLink Bell operating territory. I acted as an expert witness on the cost models presented in these cases and led the negotiations that led to the negotiated settlements establishing rates in the most recent two UNE cost cases in Minnesota and Colorado.¹

2. Allstream offers voice and broadband services to approximately 60,000 small and medium-sized business customer locations in primarily 11 western states.² These customers include commercial businesses as well as schools, health care providers, and government agencies including airports and military locations. Allstream serves customers across the United

¹ MN PUC Docket No. P-421/CI-01-1375 and CO PUC Docket No. 07A-211T.
² Allstream serves primarily in the CenturyLink territory in Arizona, Colorado, Idaho, Minnesota, Montana, North Dakota, Oregon, Utah, and Washington; the AT&T territory in California and Nevada; and the Frontier territory in Oregon and Washington.
States, but is primarily concentrated in the western United States. The table below shows a breakdown of the locations served by Allstream as well as the number of cities served by Allstream in each state.

<table>
<thead>
<tr>
<th>State</th>
<th>% of Customer Locations</th>
<th>Number of Cities/Towns with customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>5%</td>
<td>66</td>
</tr>
<tr>
<td>California</td>
<td>4%</td>
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<td>Colorado</td>
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<td>107</td>
</tr>
<tr>
<td>Idaho</td>
<td>3%</td>
<td>52</td>
</tr>
<tr>
<td>Minnesota</td>
<td>18%</td>
<td>286</td>
</tr>
<tr>
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<td>1%</td>
<td>22</td>
</tr>
<tr>
<td>North Dakota</td>
<td>1%</td>
<td>26</td>
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<tr>
<td>Nevada</td>
<td>2%</td>
<td>30</td>
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<tr>
<td>Washington</td>
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<td>Other *</td>
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<tr>
<td>Total</td>
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<td>1,809</td>
</tr>
</tbody>
</table>

* Allstream serves customers in all 50 states plus DC.

3. Allstream serves some of the larger urban areas in the west, and serves more than a thousand customer locations in Phoenix, Denver, Boise, Minneapolis, St. Paul, Portland, Salt Lake City, Bellevue, Seattle, and Vancouver. Allstream serves a significant number of customer locations in Sacramento, Billings, Fargo / Moorhead, Reno, Beaverton, Eugene, Salem, Kent, and Spokane. Allstream is not just concentrated in the larger and medium sized cities and towns in the West, but serves a wide variety of communities. The table below shows the number of cities served by various quantities of customer locations.
4. Allstream’s communications technologies include a range of innovative, highly scalable IP, cloud, voice, and data solutions that help organizations communicate and collaborate more efficiently and profitably. Allstream’s product set includes the latest in SIP and Cloud-based Unified Communications as well as more traditional voice and scalable data services using a variety of trusted technologies. Allstream’s broadband offerings include speeds between 1 Mbps up to 10 Gbps.

5. Where and when possible, Allstream uses the fiber facilities of Zayo to provide service to its customers. In other areas, Allstream uses UNEs from the incumbent local exchange carriers (“ILECs”) to provide service. Specifically, Allstream purchases 2-wire copper loops, sometimes referred to as DS0 loops, DS1 loops, DS1 and DS3 Enhanced Extended Loops (“EELs”), DS1 interoffice transport, DS3 interoffice transport, or dark fiber interoffice transport. Allstream also purchases a handful of DS3 loops.

6. For example, using UNE 2-wire copper loops, sometimes referred to as DS0 loops, we offer a symmetrical 60 Mbps service with unlimited data usage for $360-$570 per depending on the term of the contract. Allstream will use UNE DS1s to provide Ethernet services to customers when the company is not able to use 2-wire copper loops either because

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3 Specifically, Allstream purchases 2-wire xDSL conditioned loops.
copper is not available because the loop is a hybrid loop (the loop contains some fiber) or the copper loop length is too long to support digital services.

7. Allstream primarily uses UNEs as the last mile connection to customer premises when other, cost effective access is not available. Fiber access reaches only a small portion of our 60,000 end user customers and Allstream serves only approximately 3,000 customers using its parent company fiber. Allstream also uses interoffice transport UNEs, including unbundled dark fiber, when its own facilities are not available, to carry voice and data traffic to centralized switches or its data network. At present, approximately 95% of our customers are served in whole or in part over UNEs.

8. The use of UNEs, especially unbundled loops allows Allstream to access end user customers and provide differentiated products and services. Allstream uses UNEs to access end users where alternative, cost effective access is not available. Alternative access methods may not exist because the incumbent is the only carrier providing services to the end user location, or the customer’s service requirements do not justify higher cost, higher bandwidth solutions.

9. Throughout its history, Allstream has used its customer base, most of which was initially acquired through the use of UNEs, to justify the build of its backbone network. In addition, sufficient demand at an end user location can also justify building fiber access to that location. Broad access to UNEs, both loops and transport, has allowed Allstream to enter new markets without having a prior customer base. UNEs uniquely aid the ability to invest in fiber facilities because Allstream can begin to serve the customer, then build the fiber, and, UNEs
unlike business data services, we are not required to make extended term commitments beyond
the period needed to build fiber, which lowers the effective cost of fiber deployment. Allstream
employed this strategy in both urban and suburban communities.

10. For example, in some small communities in Oregon, such as Corvallis and
Oregon City, Allstream leased collocation space from CenturyLink and used UNEs to build out
to its customer base. Allstream then built fiber to certain locations within that foot-print and
brought that fiber back to its leased collocation space, which it then aggregated with other traffic
to send to its backbone network. As a result of this activity Allstream became a fiber-based
collocator in these wire centers changing the Tier status in these wire centers. As a result of the
fiber builds by Allstream, CenturyLink was able to obtain relief from providing certain UNE
transport circuits under the Triennial Review Remand Order criteria.4

11. The loss of access to UNEs would affect Allstream’s ability to continue to
provide service and would negatively impact nearly all of our customers. First, most of
Allstream’s loop purchases are for 2-wire loops. There is no wholesale equivalent offering from
the ILECs for this service and thus it is unclear whether a commercial product will be available,
what the rates will be for this product, and what terms and conditions apply to a commercial
product. For example, in 2011 Allstream (f/k/a Integra Telecom) negotiated what is referred to
as the “xDSL Amendment” to its interconnection agreement with CenturyLink. This agreement
provided, for the first time, specific and clear requirements to condition, provision, test, and
repair loops specific to standards required for providing broadband services over these 2-wire

4 In the Matter of QWEST CORPORATION d/b/a CENTURYLINK QC Petition for
Commission Approval of 2017 Addition to Non-Impaired Wire Center List, OPUC Docket
UM 1891, Order 18-238, June 27, 2017.
loops. Prior to this amendment CenturyLink took the position that it was only required to meet voice service quality levels on 2-wire loops.

12. Second, Allstream uses DS1 and DS3 loops when xDSL-conditioned 2-wire loops are not available, or are too long to support high speed data service to the customer. Allstream also uses UNE transport in conjunction with DS1 and DS3 loops, as EELs, to serve some of these customers.

13. Third, the commercial equivalent to DS1 and DS3 loops and transport are the traditional special access services, which have since been deregulated to a significant degree. These services are priced at multiples above the prices for unbundled access. The table below compares DS1 UNE and DS1 private line rates offered by CenturyLink on a month-to-month basis. As can be seen by the table rates for private line services are significantly higher than the rates for UNE DS1s and DS3s.
Many of Allstream’s customers have multiple locations. These customers look for a single provider to deliver its communications needs. The customer may have one main location that requires large bandwidth and multiple voice channels and smaller branch offices that have limited voice and data needs. The ability to make competitive bids for these customers often relies on a mix of last-mile access solutions to reach the end user customer locations. We may use Zayo fiber to reach the main location for the customer, UNEs for locations that fall within our collocation footprint, and resale for locations outside this footprint. Elimination of UNEs and resale, or significant price changes for these services can eliminate our ability to
effectively bid for the desired total communications solution for our customers and degrades our ability to use our own fiber when it is available.

15. Unlike a commercial offering such as a special access service, 2-wire copper loops do not include ILEC electronics that determine what services can be offered over the loop. Rather, Allstream can deploy its own electronics on either end of the 2-wire loop. In this way, Allstream can customize and control the services provided over the loop, including service quality and security. Allstream is not aware of any wholesale commercial offerings in our service area that would provide us with the same functionality as the 2-wire loop in allowing us to provide these services.

16. Some of our customers, including health care providers, banking customers, and governmental entities have specific service requirements that Allstream could not meet without customizing the service by attaching our own equipment to the 2-wire loop. These customers often require secure private networks and lack comparable offerings from ILECs or incumbent cable providers to meet their service quality and security needs. For example, Allstream customizes the service for healthcare providers that ask for secure private networks to meet Health Insurance Portability and Accountability Act of 1996 (“HIPAA”) standards and requirements. In our experience, the ILECs with whom we compete do not prioritize service to business consumers that require highly specialized services, but that are not large. These companies put their emphasis on the mass market with standardized products and thus lower customer acquisition costs, or on enterprise customers with large revenues that offset high customer acquisition costs due to specialized services. For small to medium sized businesses with specialized needs requiring customization, they prefer solutions to utilize public internet transmission (for example, SD-WAN). However, public internet transmission is not as secure as
the private network solutions that Allstream provides using UNE two-pair copper loops combined with our own electronics. Thus, two-pair copper UNE loops allow us to compete to serve this niche, providing superior alternatives for these consumers.

17. Dark fiber transport: Allstream purchases unbundled dark fiber transport in situations where it does not have access to Zayo fiber and either alternative fiber is not available from a third party or third-party alternatives are not cost effective. Dark fiber is not available throughout the ILEC territory. It is only available when one subtending office is classified as Tier 3. In cases where unbundled dark fiber is not available as a result of the change in the Tier status of an office CenturyLink offers commercial dark fiber at substantially higher rates. In most cases where Allstream was purchasing unbundled dark fiber from CenturyLink which subsequently became unavailable as a result in the change in the Tier status of a wire center, Allstream subsequently purchased Commercial Dark Fiber from CenturyLink as either alternative fiber was not available or the costs to migrate services off of existing fiber facilities was prohibitive. The table below compares the rates for unbundled and commercial dark fiber in the CenturyLink service territory in which Allstream operates.
18. The loss of UNEs would also have a serious negative impact on Allstream’s customers. First, the loss of UNEs could result in a reduction in the products and services that we can offer to end users. Commercial replacements for UNEs such as 2-wire loops used to provide digital services do not exist across the ILECs’ service territories. It is unknown whether the ILECs will continue to offer these services and if so, at what rates, terms and conditions. Second, Allstream will attempt to pass through any increase in its underlying cost to end users. This could effectively eliminate Allstream as a competitive alternative in certain markets, especially for our smaller business customers with lower bandwidth demands. Third, to Allstream’s best knowledge, CenturyLink has been diminishing its focus on the small and mid-sized business (“SMB”) market after its acquisition of Level 3. CenturyLink appears to be focusing on the larger commodity product market, which offers standardized services to customers. Standardized services are not comparable substitutes for Allstream’s customers that

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5 CenturyLink does offer a commercial option for 2-wire loops in the Omaha wire center where it previously obtained UNE forbearance.
have specific service requirements requiring customization. Cable providers in Allstream’s markets also do not provide comparable customized services, nor do they build private networks for SMBs. Allstream uses UNE loop facilities, both 2-wire loops as well as DS1 and DS3 loops to provide secure, customized, private networks to its end user customers. By bonding together multiple 2-wire loops, or multiple DS1s Allstream can provide Ethernet services to meet the specific bandwidth needs of many end user customers within its footprint.

19. Allstream has used UNEs to provide innovative services over time, often well in advance of our ILEC competitors. From dial-up internet, to digital subscriber line, to high bandwidth services using Ethernet over copper, to the current SIP and Cloud-based Unified Communications offerings, Allstream is often on the leading edge of new technologies. Allstream’s aggressive roll out of new products and services results in the roll out of similar services and offerings from our competitors and has driven the incumbent carrier to upgrade its services in order to better provide services to end users.

20. The loss of access to UNEs would also affect Allstream’s ability to deploy its own facilities. In all markets Allstream began offering service using UNEs before deploying network and fiber facilities. Without a sufficient customer base to justify the deployment of fiber facilities, it is much less likely that Allstream would be able to justify the investment in new fiber facilities.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

Douglas Denney

August 3, 2018

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

In the Matter of

Petition of USTelecom for Forbearance
Pursuant to 47 U.S.C. § 160(c) to Accelerate
Investment in Broadband and Next-Generation
Networks

WC Docket No. 18-141

DECLARATION OF JAMES BELLINA

1. My name is James Bellina. I serve as President and CEO of Dialog Telecom LLC ("Dialog"). I have been with the company for 18 years.

2. Dialog offers voice and broadband services to residential and business customers in suburban and rural areas in the states of Kentucky and Texas. Dialog provides fixed voice and broadband service in 67 markets, which are served by three incumbent local exchange carriers ("ILECs")—AT&T, Windstream, and CenturyLink. Of these markets, 51 markets are rural. Dialog broadband offerings include traditional DSL, high-speed bonded DSL, fixed wireless, as well as DS1 and fiber offerings.

3. Dialog provides service through a wide variety of mediums including its own fixed wireless networks, and through UNEs purchased from AT&T, including loops (DS0, DS1, and DS3), DS1 and DS3 interoffice transport, and dark fiber interoffice transport. In other areas, Dialog provides service through wholesale arrangements.

4. Dialog provides retail voice and broadband offerings to residential and business customers in suburban markets predominantly using UNE circuits while building density to deploy advanced network technology. Dialog has built out a core network in areas served, but requires UNE circuits as a crucial distribution network to reach subscribers. In many cases
UNEs provide the interoffice connectivity for the core network, and UNEs provide the last mile to the customer premises. Virtually all of Dialog’s suburban customers are served in whole or in part over UNEs.

5. DS0 copper loops, and in particular the xDSL-conditioned copper loop, are critical inputs to Dialog’s network. Unlike a commercial offering such as a special access service, DS0 copper loops do not include ILEC electronics that determine what services can be offered over the loop. Rather, Dialog can deploy its own electronics on either end of the DS0 loop. In this way, Dialog can customize and control the services provided over the loop, including service quality and security. Using DS0 UNEs, Dialog offers broadband speeds to customers of up to 30 Mbps download and 30 Mbps upload. Dialog is not aware of any wholesale commercial offerings in our service area that would provide us with the same functionality as the DS0 UNE loop.

6. The loss of access to UNEs would affect Dialog’s ability to continue to provide service. Specifically, loss of access to UNE DS0 copper loops would result in ending service in suburban markets where there are no wholesale DS0 options available. Loss of access to UNE DS1s would have a similar impact. While there are special access options available for UNE DS1, these options are often cost prohibitive.

7. For other UNE loops such as DS1s and DS3s, commercial offerings like special access services or other business data services may be available. However, we anticipate that cost via special access would be over 200% higher than UNE costs.

8. Dialog uses dark fiber transport as connectivity in its core network. Lit fiber alternatives are significantly more expensive, and in the areas we serve, there is no wholesale alternative for dark fiber connectivity. As a key component to Dialog’s core network,
elimination of this UNE would be disruptive to all customers served in the market where the dark fiber UNE is being purchased.

9. DS1 transport UNEs, in addition to providing interoffice transport, also combine with UNE loops to provide Enhanced Extended Lines, or “EELs”—the loss of UNE transport would eliminate the availability of EELs, which Dialog uses to provide DS1 voice, PRI, and bonded DS1 voice and data services. These “legacy” services are still very much needed by commercial customers in Dialog’s serving areas. In recent years, large carriers have made it more difficult and more expensive for customers to get these services, and it should not be assumed that there would be a path to migrate these services to a wholesale or special access arrangement, and if it is possible, it will very likely be cost prohibitive.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

James Bellina

Date: 8/3/18
Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of
Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks

WC Docket No. 18-141

DECLARATION OF JEFF BUCKINGHAM

1. My name is Jeff Buckingham. I serve as President at Digital West. I have been with the company for 1 1/2 years and in the industry since 1983. My responsibilities include leadership of the telecommunications business and services to our customers, regulatory and legislative issues, and always aligning to the core values of our company.

2. Digital West offers voice, broadband, and cloud services to small and medium sized business and some residential customers the rural central coast of California, predominantly in San Luis Obispo and Santa Barbara counties. Digital West is the only DSL broadband provider through a remote terminal in the Nacimiento Lake area northwest of Paso Robles, where the incumbent local exchange carrier (“ILEC”) is AT&T.

3. Digital West has a fiber optic network in San Luis Obispo where we provide a variety of internet and private network products to business including symmetrical 100 Mbps/100 Mbps internet for $550.00/month in single tenant buildings and $350.00/month in multi-tenant buildings. Additional speeds and services are available up to 10 Gbps priced on an individual basis, and 1 Gbps residential services are available with unlimited data for $100.00/month. Digital West also offers voice and asymmetrical and symmetrical data services on UNEs purchased from AT&T or Frontier to businesses on single and bonded loops using T-1,
Digital West opens our UNE and fiber networks to competitors and provides wholesale services with any of our broadband offerings. Other carriers can connect at our data center or at peering points in northern or southern California and purchase connections to any area that we serve.

Where and when possible, Digital West deploys its own fiber facilities to serve customers. Digital West also uses unbundled network elements (“UNEs”) from the ILECs to provide voice and data services. Specifically, Digital West purchases DS0 copper loops, EELs, DS1 and DS3 loops, DS1 and DS3 transport, dark fiber interoffice transport, and copper subloops from remote terminals to reach some customers. The remote terminals are fed by bonded DS-1 loops since dark fiber transport to remote terminals is no longer available. The majority of our customers—approximately 2,000—are served in whole or in part over UNEs.

Using DS0 UNEs, Digital West offers voice and broadband speeds to residential customers of up to 30 Mbps download and 10 Mbps upload, and speeds to enterprise customers of up to 300 Mbps download and 300 Mbps upload depending on loop length.

The use of UNEs enables Digital West to quickly and reliably serve customers in a marketplace while building the financial sustainability to justify expanding the fiber network. For example Digital West uses bonded copper UNEs to provide low latency symmetrical internet connections that are critical to businesses with precise data needs. These connections are available in areas where no fiber exists and to businesses too small to cost-justify the bonded T-1 or fiber symmetrical solutions offered by the incumbents. Current barriers to fiber deployment are slow, discriminatory, arbitrary and burdensome pole and street access procedures,
inconsistent city and county regulations for construction, and unanticipated regulatory instability, which limits the ability to finance and build fiber. UNEs uniquely assist our ability to build fiber facilities because we can begin to serve the customer, then build the fiber, and, unlike business data services, we do not need to make extended term commitments beyond the period needed to build fiber, which lowers the effective cost of fiber deployment. Most of the fiber deployments done over the last two years are to customers who were served by UNEs.

8. The loss of access to UNEs would affect Digital West’s ability to continue to provide service. Specifically, any price increases would have to be passed on to customers and loss of UNEs would eliminate our ability to serve many customers altogether. If Digital West lost access to UNEs, the 80% of existing customers who cannot yet be connected to the fiber network would have to be advised to seek service with very unpopular cable or incumbent telephone companies who also do not offer lower cost high speed services such as VDSL or symmetrical data services. As of August 1st 2018 Yelp rates AT&T, Charter, and Frontier at a single star and Digital West is rated at the highest 5 star rating for customer satisfaction. One Example is a 3 location local appliance retailer, “Idler’s” who has a combination of services with fiber and UNEs and the phone system is built to fail over using the combined network if any on location loses service. Without the ability to reach customers with UNEs new fiber builds would only be viable to new neighborhoods where conduits are provided by the developer or where other funding or building methods are available.

9. DS0 copper loops, and in particular the xDSL-conditioned copper loop, are critical inputs to Digital West’s network. Unlike a commercial offering such as a special access service, DS0 copper loops do not include ILEC electronics that determine what services can be offered over the loop. Rather, Digital West can deploy its own electronics on either end of the
DS0 loop. In this way, Digital West can customize and control the services provided over the loop, including service quality and security. Some of our customers, including health care providers, banking customers, and governmental entities have specific service requirements, such as proactive notification of line failure and simultaneous ringing to multiple locations, that Digital West could not meet without customizing the service by attaching our own equipment to the DS0 loop. Digital West is not aware of any wholesale commercial offerings in our service area that would provide us with the same functionality as the DS0 loop.

10. Digital West is collocated in 8 central offices throughout our service area and 6 of those offices are linked with UNE dark fiber transport. The remaining small offices are connected with UNE DS-3 transport. The dark fiber UNE is particularly important to our ability to deliver broadband because we can purchase the dark fiber UNE at cost-basted rates and increase the capacity of the connection one step at a time by increasing the capacity of the electronics on either end as the company grows and the customer’s demand for bandwidth increases. There are no competitive dark fiber or lit services between central offices so the only services available are the much more expensive ILEC lit services that would increase costs by a factor of 40 and eliminate the flexibility of easily increasing the speed of the dark fiber loops. Each UNE dark fiber connection supports from 100 to 1,000 subscribers (or more) so they are critical to the network. These same dark fiber UNEs are also used to expand the fiber network between cities. Building fiber to duplicate the dark fiber UNEs between central offices is estimated to cost between $1,000,000 and $2,000,000.

11. For other UNE loops such as DS1s and DS3s, commercial offerings like special access services or other business data services may be available. However, they are substantially more expensive. UNE DS-1 is available for $70.00 per month and the equivalent special access
service is $330.00 per month. Similarly, DS1 and DS3 transport services may be available but at a substantially higher cost. Special Access DS-1 transport is much more expensive costing $23.71 per mile per month compared to 25 cents for UNE DS-1 transport. Transport UNEs, in addition to providing interoffice transport, also combine with UNE loops to provide Enhanced Extended Lines, or “EELs”—the loss of UNE transport would eliminate the availability of EELs, which Digital West uses to serve customers with advanced voice services such as SIP and PRI and reliable low latency data services in cities where we do not have colocation. At T-1 EEL to a nearby city costs about $109.00 per month but the equivalent Special Access circuit is over $600.00 per month and is MUCH more mileage sensitive for cities that are further away. This cost difference is so large that existing services would need to be disconnected and new customers in those cities would be limited only to ILEC services.

12. The loss of UNEs would also have a serious negative impact on our customers. These include critical customer and community anchors: all of the fire alarm and emergency lines for the local school district as well as voice and data services for water districts, local governments, medical offices voice and secure HIPPA compliant data networks, and many non-profit groups. In addition, AT&T has raised the price of POTS lines for fire alarms to $120.00 per month and many building owners have moved their alarm lines to Digital West at a cost of $39.00 per month. These alarm lines would no longer be available if the DS-0 UNE is no longer offered. Digital West is the only landline internet provider in the Lake Nacimiento area north of Paso Robles through a remote terminal fed by bonded DS-1 loops and AT&T does not provide wired internet to this area. These 20 rural customers would no longer have access to DSL and a local telephone line for 1 price of $89.00. The price of an AT&T land line with calling, features
and no internet in the area is $61.00 per month. An important factor is the cellular coverage in that area is very poor which creates a dangerous situation for 911 and other emergency calls.

13. Our entry utilizing UNEs has pushed other broadband providers to upgrade their services. The local cable company, Charter/Spectrum has recently upgraded speeds in San Luis Obispo County, and AT&T has begun building some limited fiber to high end homes in San Luis Obispo.

14. The loss of access to UNEs would also affect Digital West’s ability to deploy its own facilities. In several markets including Paso Robles and Pismo Beach, Digital West began offering service using UNEs but after gaining a sufficient customer base was able to deploy its own fiber facilities. Without access to UNEs, it would be far less likely that Digital West could contemplate deploying new fiber facilities as the way to enter a new market.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

Jeff Buckingham

August 3, 2018
ATTACHMENT 7
Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of

Petition of USTelecom for Forbearance
Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks

WC Docket No. 18-141

DECLARATION OF TODD MATTHEW WAY

1. My name is Todd Matthew Way. I serve as CEO at Douglas Services Inc., dba Douglas Fast Net (“DFN”). I have been with the company for 11 years. My responsibilities include long range planning, market development, and company guidance. DFN is a wholly owned subsidiary of Douglas Electric Cooperative. Our mission is to make advanced communication services including broadband and voice services available for our members and surrounding communities. Utilizing unbundled network elements (“UNEs”) has helped us accomplish this mission.

2. DFN offers voice and broadband services to residential, small business, and medium-sized business customers in Douglas County and Coos County in southern Oregon, where CenturyLink is the incumbent local exchange carrier. In areas of Tyee, Kellogg, Elkhead, and Olalla, DFN is the only broadband option available other than satellite service for approximately 400 customers. In other situations DFN’s fiber-to-the-node network drastically outperforms the CenturyLink’s T1-fed DSLAMs, offering services of up to 40 Mbps where CenturyLink only offers 1.5 Mbps.

3. Where and when possible, DFN deploys its own facilities to serve customers. Approximately 5,000 customers are served over our fiber-to-the-home network. With our fiber-
to-the-home, DFN provides voice service, as well as residential broadband service of 100 Mbps download speeds and 25 Mbps upload speeds with unlimited data usage for $39.99 per month. Speeds of 1 Gbps download and 250 Mbps upload are available for $89.99 per month.

4. DFN also owns fiber transport facilities and offers wholesale Ethernet transport service to other carriers and Internet service providers at tailored capacities. Our customers use the transport to deliver traffic to and from their service areas to switches and peering points in Portland, Oregon. DFN is a major provider of cellular backhaul for Douglas County and Coos County, Oregon, enabling major carriers to offer LTE services.

5. Where its own fiber is not available, DFN uses unbundled network elements ("UNEs") from the incumbent local exchange carrier CenturyLink to provide service. DFN primarily uses UNEs as the last mile solution for hard to reach residential locations to provide voice and broadband services. Specifically, DFN purchases or has purchased in the past DS0 copper loops, DS1 and DS3 loops, and DS1 and DS3 interoffice transport. DFN also purchases UNE subloops to provide last mile solutions from 75 remote fiber-fed DSLAMs to the end user. Approximately 35% of our customers, or 2850, are served in whole or in part over UNEs. There are no other wholesale alternatives to loops or transport from the incumbent local exchange carrier.

6. Our DSL product, which utilizes UNE elements, provides 5 Mbps download and 1.5 Mbps upload for $39.99 per month with unlimited data usage. Speeds of 15 Mbps and 40 Mbps are available depending on the conditions and lengths of the UNE copper facilities.

7. The use of UNEs enables DFN to provide broadband and voice services where we do not have our own fiber facilities. Once we have enough interest we will often deploy fiber to the home to improve speeds and reliability.
8. The loss of UNEs would also have a serious negative impact on our residential customers. DFN will be forced to either raise rates or discontinue service to over 2,500 rural homes in Douglas County. Customers in areas such as Tyee and Ollala, Oregon will be faced with increased rates or loss of service if this were to happen.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

                       [Signature]

Todd Matthew Way

6/3/2018
Date
ATTACHMENT 8
Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of
Petition of USTelecom for Forbearance
Pursuant to 47 U.S.C. § 160(c) to Accelerate
Investment in Broadband and Next-Generation Networks

WC Docket No. 18-141

DECLARATION OF GREGORY J. DARNELL

1. My name is Gregory J. Darnell. I serve as Director Margin Assurance at Fusion Connect, Inc. (“Fusion”). I have been with the company and its subsidiaries for 11 1/2 years. My responsibilities include directing the work of Fusion’s Margin Assurance department, including assessment of customer and product profitability, and the audit of cost of goods sold (COGS) invoices. Prior to coming to work for Fusion, from 1996 through 2006 I worked for MCI on the negotiation and arbitration of interconnection agreements and Unbundled Network Element (“UNE”) rates with the incumbent local exchange carriers (“ILECs”), serving as an Executive Staff Member in 2005 and 2006.

2. Fusion through its various subsidiaries offers voice and broadband services to small and medium-sized business customers in North America.

3. Fusion uses resold services, access services and UNEs from ILECs to provide services. Specifically, where it has invested in collocation facilities, Fusion purchases unbundled copper loops and UNE DS1 loops, often combined with DS1 and multiplexed DS3 interoffice transport. The company also has constructed and owns fiber first-mile loops and metro ring transport facilities.
4. Fusion depends on the nondiscriminatory interconnection offered under ICAs and an ability to lease UNEs at cost-based rates from ILECs.

5. The use of UNEs enables Fusion to provide service to customers using its own network intelligence.

6. The loss of access to UNEs would affect Company’s ability to continue to provide certain services.

7. Unbundled copper loops are critical inputs to Company’s network. Unlike a commercial wholesale service offering, such as a special access service, unbundled copper loops do not include ILEC electronics that govern the types of services can be offered over the loop. Rather, Fusion deploys its own electronics on either end of the unbundled loop. In this way, Fusion can customize and control the services provided over the loop, including service quality and security.

8. For other UNE loops such as DS1s and DS3s, commercial offerings like special access services or other business data services may be available. However, these commercial offerings are substantially more expensive per unit of bandwidth at comparable Quality of Service (QoS). Similarly, alternative interoffice transport offerings can be available from ILEC and non-ILEC providers. However, consistent with FCC UNE non-impairment rules, these alternatives are generally only available from non-ILEC providers where UNEs are not available and transport alternatives available from ILECs are substantially more expense per unit of bandwidth and comparable QoS.

9. The loss of UNEs where CLECs are impaired without the ability to purchase UNEs at cost-based rates would also have a serious negative impact on customers. The anticipated first impact would be a rate increase, as I would not expect ILECs to reduce rates for
any comparable special access or wholesale switched Ethernet services to current UNE rate levels. Facility-based CLECs would flow through any cost increase to customers. The second impact would be customer service disruption as these rate increases will drive customers to change service and possibly customer premise equipment. In particular, if a business customer is currently served with TDM service but the cost of TDM service is increased and becomes prohibitively expensive relative to Ethernet based service, a migration to Ethernet service should also mean a migration to new CPE. This is because TDM CPE won’t work on an Ethernet without a protocol conversion and unnecessary protocol conversions should be avoided because they reduce long-run network quality and efficiency. Most customers do not have staff dedicated to manage telecommunications and information services. This means that in order to change network service processes, employee time must be diverted from other, probably income creating, tasks. Further, a change to a service delivery method usually means service will be disrupted for a period of time and also means that, even after the change is implemented, there is an increased risk of service failure for a period of time. Network service failure can have a catastrophic impact on a business. As such, most businesses avoid changing anything about their network services and require strong financial incentives to make any changes.

10. The loss of UNEs at cost based rates where impairment exists would also negatively affect market entry. The ability to purchase UNEs at cost-based rates where impairment exists provides new market entrants a stair step to full facility based service. The market entry path set forth by the FCC in the 1996 First Report and Order (CC Docket 96-98), and subsequent refinements to that order, has been as follows: total service resale first; UNEs combined with some CLEC facilities second; and, full facility based service last. Fusion’s history has followed this three step approach to full facility based competition in several markets
including Atlanta, Houston, Dallas, Chicago, Los Angeles, Denver and San Francisco. The Company began offering its services using resale and UNEs and after gaining a sufficient customer base was able to deploy fiber facilities in these markets. Without access to UNEs priced at cost-based rates, and the location specific revenue stream that they make possible for new market entrants, the construction of competitive fiber facilities would become less likely.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

/s/
Gregory J. Darnell

August 5, 2018
Date
ATTACHMENT 9
In the Matter of
Petition of USTelecom for Forbearance
Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks

WC Docket No. 18-141

DECLARATION OF DAN BUBB

1. My name is Dan Bubb. I serve as President and CEO of Gorge Networks Inc. ("Gorge Networks"). I have been with the company for 22 years. My responsibilities include the strategic direction of the company and managing our financial health.

2. Gorge Networks offers voice (via IP and TDM) and broadband services to residential, small business, and school and government customers in the Mid-Columbia area of Oregon and Washington (north-central Oregon and south-central Washington), which is a very rural part of the northwest. In some of the more remote areas such as the outlying areas in Wasco County, we are the only provider of broadband services, over our fixed wireless network.

3. Our residential broadband service ranges from 5 Mbps best effort to 100 Mbps depending on the area and technology used (fixed wireless, unbundled network elements ("UNEs"), or fiber). Our business-class service is up to 1 Gbps symmetrical service.

4. Where and when possible, Gorge Networks deploys its own facilities to serve customers. We currently serve 75% of our customers over our own fiber-to-the-premises network or our fixed wireless network. The remaining 25% is served via UNEs. Specifically, we purchase DS0 copper loops, DS1 and DS3 loops, and DS1 and DS3 interoffice transport. We
also purchase UNE subloops when a customer we want to serve is served by an ILEC remote terminal ("RT"). Gorge Networks also resells a small amount of service from CenturyLink.

5. We use UNEs as a last mile solution primarily. Approximately 25% of our customers are served directly over UNEs. Using DS0 and subloop UNEs, Gorge Networks offers broadband speeds to business and residential customers of up to 100 Mbps download and 20 Mbps upload.

6. The use of UNEs enables Gorge Networks to 1) provide faster more reliable service than the ILEC due to bonding copper loops and providing higher feeder capacity, and 2) establish sufficient market share before we invest in a fiber build in that same market. Due to the high cost of building fiber networks, it is important that we establish a customer base prior to building a fiber network to feed the same customer. We can shorten the time to return-on-investment by rolling an existing customer base on to fiber, making it easier to finance the fiber build. UNEs uniquely assist our ability to build fiber facilities because we can begin to serve the customer, then build the fiber, and, unlike business data services, we do not need to make extended term commitments beyond the period needed to build fiber, which lowers the effective cost of fiber deployment.

7. DS0 copper loops and Subloops, and in particular the xDSL-conditioned copper loops, are critical inputs to our network. Unlike a commercial offering such as a special access service, DS0 copper loops do not include ILEC electronics that determine what services can be offered over the loop. Rather, we deploy our own electronics on both ends of the DS0 loop. In this way, we can customize and control the services provided over the loop, including service quality and security. Some of our customers, including health care providers, banking customers, and governmental entities have specific service requirements that we could not meet without
customizing the service by attaching our own equipment to the DS0 loop. In many instances, we bond several DS0 loops to provide speeds well beyond what the ILEC can provide over the same copper loops. Secondly, operating the equipment on both ends of the UNE allows us to more effectively troubleshoot service quality issues. In fact, we have no control over the service at all if it transits any electronics by the ILEC and troubleshooting service quality issues is significantly delayed. We are not aware of any wholesale commercial offerings in our service area that would provide us with the same functionality as the DS0 loop.

8. The loss of access to UNEs would significantly affect our ability to continue to provide service in a number of markets. Markets where no aerial utilities exist prove too costly in most cases to construct fiber facilities; underground networks are more expensive to build. Even if existing UNEs are grandfathered in, we would not have the ability to add loops for speed increases, or move customer to new locations. We are already paying a high rate for UNEs ($24/ per month or higher for a DS0); and a price increase would force us to exit that market with UNE based services. That would also strand the hundreds of thousands of dollars of investment we have made in Colocation, DSLAMs, and other infrastructure that we built in order to provide service via UNEs. Because the loss of UNEs would result in a substantial financial hit on us (roughly 25% revenue loss) it would impact our ability to fund new fiber builds in other markets.

9. For other UNE loops such as DS1s and DS3s, special access services are considerably more costly. Similarly, DS1 and DS3 transport services may be available but at a substantially higher cost. The loss of UNE transport would also eliminate the availability of EELs, which we use to provide voice services such as a PRI to remote customers. We provide PRI service to schools and businesses that would not be able to get the same service from the ILEC.
10. The loss of UNEs would also have a serious negative impact on our customers. The fact that we have a significant market presence is proof that consumers are not satisfied with the level of service provided by the ILEC (in our case, this is CenturyLink). Customers would be forced to use their service in many of our service areas. If it weren’t for our fiber construction, some customers would be without broadband service at all due to the lack of capacity available by the ILEC. For instance, we are deploying fiber in Cascade Locks where portions of the community have requested broadband service from the ILEC and have been declined due to lack of facilities.

11. The loss of access to UNEs would also affect Company’s ability to deploy its own facilities. In Hood River, OR and Goldendale, WA markets we began offering service using UNEs but after gaining a sufficient customer base we were able to deploy fiber. Gorge Networks is the first company to deploy fiber-to-the-premises in a broad scale to these communities, and we are in the process of moving customers from UNEs to fiber. Without access to UNEs, we would not have been able to establish the foothold necessary to allow us to deploy fiber to Hood River and Goldendale, and it would be far less likely that we could contemplate deploying new fiber facilities as the way to enter a new market.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

Dan Bubb
8/3/2018
Date
ATTACHMENT 10
In the Matter of )
) Petition of USTelecom for Forbearance ) WC Docket No. 18-141
Pursuant to 47 U.S.C. § 160(c) to Accelerate )
Investment in Broadband and Next- )
Generation Networks )

DECLARATION OF FLETCHER KITTREDGE

1. My name is Fletcher Kittredge. I serve as CEO at Biddeford Internet Corporation
d/b/a GWI. I have been with the GWI for 24 years. My responsibilities include overseeing all
departments.

2. GWI offers voice and broadband services to residential, small business, medium-
sized business, and enterprise customers in the State of Maine. We provide service via 58 central
offices and points of presence in all sixteen Maine counties.

3. GWI provides residential broadband via both DSL and fiber. Our residential DSL
broadband service provides a maximum of 20 Mbps download speeds and 1 Mbps upload speeds
delivered over a single copper loop for $36.95 per month before taxes and fees. Speeds are
dependent upon distance from the central office. In Fiber Service Areas where we have invested
in fiber infrastructure we deliver symmetric speeds of up to 1 Gbps using our own fiber. Pricing
ranges from $69.95 for 150/150 Mbps, $94.95 for 250/250 Mbps, $119.95 for 500/500 Mbps, to
$159.95 for 750/750 Mbps. 1 Gbps/1 Gbps are limited cases and do not currently have a
published rate.

4. Our commercial broadband service ranges from 20 Mbps download and 1 Mbps
upload for $69.95 using UNE copper loops up to symmetric 1 Gbps using our own fiber. In
between these we can also deliver 30 Mbps/3 Mbps via bonded UNE copper loops for $119.95 and up to a symmetric 40 Mbps using bonded loops from the ILEC. Prices vary dependent upon the number of UNE copper loops needed to achieve the customer’s download and upload requirements. GWI does not cap nor do we monitor and charge for usage in either the residential or commercial segment.

5. GWI is a strong proponent of the “open access network” model and wholesales access to a wide-range of its products including but not limited to middle and last mile dark fiber, lit transport for other carriers, and DSL service to business and residential customers. Our wholesale offerings are split into two categories: re-sale and network-to-network interface (NNI) connections. On the NNI side we provision single or multiple LEC-provided copper loops or a fiber optic connection via our fiber network into the wholesale customer’s premises and carry this back to the NNI peering point where the data traffic is then transported by the wholesale carrier on the network. Our delivery mechanism is the same, relying upon copper loops from the ILEC or our own fiber when possible.

6. We offer wholesale Ethernet transport service to other carriers and internet service providers at tailored capacities. Our customers use the transport to deliver traffic to and from their service areas to a variety of switches and peering points in Maine, Boston, Manchester, NH, and New York City.

7. For the last twelve years, GWI has been constructing its own fiber network with the intention of eventually replacing the UNEs it leases from the incumbent. The two main factors determining where we build fiber are the growth in demand for higher speed services and the market share we have reached using UNEs. An example of a market where we have constructed fiber to replace UNEs is South Portland, Maine. We have also constructed fiber to
replace UNEs in parts of Falmouth, Cumberland, Freeport, Bath, Topsham, and Brunswick, Maine. Where and when possible, GWI deploys its own fiber facilities to serve customers. While over half of our revenue is based on our fiber network, 73% of our customers are served in whole or in part over UNEs. This is because our small business and residential customers are served primarily by fiber.

8. Using DS0 UNEs, GWI offers broadband speeds to residential customers of up to 20 Mbps download and 1 Mbps upload and speeds to enterprise customers of up to 45 Mbps download and 45 Mbps upload.

9. The use of UNEs enables GWI to build a customer base which then financially justifies building a fiber infrastructure and to serve rural markets that are too small and isolated to justifying building our own infrastructure. Without access to UNEs, this would not be possible.

10. The loss of access to UNEs would affect GWI’s ability to continue to provide service. Specifically, we would pull out of roughly 30% of the approximately 60 markets we serve. All of the markets we would exit are rural markets. In these markets if GWI left there would be very limited alternatives for customers. In the rest of the markets we serve, we would cancel our entry level products resulting in severely limited or no choice of service for low income customers.

11. DS0 copper loops, and in particular the xDSL-conditioned copper loop, are critical inputs to GWI’s network. Unlike a commercial offering such as a special access service, DS0 copper loops do not include ILEC electronics that determine what services can be offered over the loop. Rather, GWI deploys its own electronics on either end of the DS0 loop. In this way, GWI can customize and control the services provided over the loop, including service
quality and security. Some of our customers, including but not limited to health care providers, banking customers, and governmental entities have specific service requirements that GWI could not meet without customizing the service by attaching our own equipment to the DS0 loop. We offer Ethernet Dedicated Internet Access, Ethernet Wire Service, Ethernet Virtual Private Line, Ethernet Virtual LAN and Hosted PBX services over DS0's. We customize the Ethernet services to meet the specific and unique requirements of our customers. If a customer needs a 5 Mbps/5 Mbps service we deliver just the speed they need. This provides the customer with flexibility to run their critical operations in a cost effective manner. With these customizations we routinely deliver what is required, where it’s required in the manner that suits the customer. This flexibility is unique in this market where the ILEC only offers three or four bandwidth options. If the customer does not fit one of those bandwidth profiles they are forced to purchasing more or less bandwidth than is required for them to run their operations. Most of the time they are forced to purchase more bandwidth. Our voice product for these enterprise customers is Hosted PBX. We deliver Hosted PBX via one or several bonded DS0's to deliver this managed voice solution to customers. Each Hosted PBX deployment requires a minimum of one but in some cases multiple DS0's to carry the VoIP traffic. Not having access to these would reduce the customer's ability to procure this type of service and force them into more traditional and archaic premises-based phone systems that rely solely on the ILEC for dial tone.

12. GWI is not aware of any wholesale commercial offerings in our service area that would provide us with the same functionality as the DS0 loop.

13. The only interoffice transport GWI uses is dark fiber. Eight years ago GWI was entirely dependent on dark fiber interoffice transport UNEs. In the intervening interval, GWI has replaced most dark fiber interoffice transport UNEs with dark fiber it has constructed itself or in
partnership with others. Of the 58 COs GWI uses, we are only completely dependent on UNE dark fiber interoffice transport in thirteen: Waterville, Augusta, Lewiston, Westbrook, North Deering, Gardiner, Windham, Gorham, Old Orchard Beach, Kennebunkport, Lisbon Falls, Livermore Falls, and Norway, serving more than 1100 customers. There is no substitute dark fiber provider in North Deering, Gardiner, Windham, Gorham, Old Orchard Beach, Kennebunkport, Lisbon Falls, Livermore Falls, and Norway. We estimate the cost to build fiber to those 9 COs at approximately $3.4 million and we would serve more than 400 customers. We have over 81 DS1 transport UNEs in our network. In addition to providing interoffice transport, they also combine with UNE loops to provide Enhanced Extended Lines (12 of them in our network), or “EELs”—the loss of UNE transport would eliminate the availability of EELs, which GWI uses to deliver advanced voice services to enterprise level customers.

14. The loss of UNEs would have a serious negative impact on our customers. GWI provides service to 444 Community Anchor Institutions (Library K-12, college/university, hospital/medical, public safety, emergency, municipal). Similar to GWI’s other customers, the vast majority of these anchor institutions are in rural areas and have chosen GWI as a service provider because we are the only option at the speed/feature/cost that they need. For example, while the ILEC only has three or four bandwidth tiers, forcing customers to buy either more or less bandwidth, GWI prices bandwidth in small increments allowing customers to buy only what they need. We also highly customize our Hosted PBX product to match the customer need. If GWI was not able to offer services in these rural areas, there would be no other option that meets their needs.

15. Our entry utilizing UNEs has pushed the ILEC to upgrade their services. In 2002, GWI first offered broadband in eight markets in Maine. In four of those eight markets, there was
no other broadband provider; the ILEC did not yet offer DSL. Shortly after GWI started, the ILEC deployed DSL in those markets. In 2004, GWI became the first provider in the US to offer ADSL2+ service and we deployed it to more than 50 COs. It took years for the ILEC to deploy ADSL2+ to those markets. In 2008 GWI and its partners constructed a fiber network serving Portland, Falmouth, Cumberland, Yarmouth, Freeport, and Brunswick, Maine. In those locations and in locations where GWI has since constructed fiber: Houlton, Rockport, South Portland ,and Ellsworth, Maine, GWI began offering service using UNEs but after gaining a sufficient customer base was able to deploy its own fiber facilities. Without access to UNEs, it would be far less likely that GWI could contemplate deploying new fiber facilities as the way to enter a new market.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

/s/
Fletcher Kittredge

August 4, 2018

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

In the Matter of

Petition of USTelecom for Forbearance
Pursuant to 47 U.S.C. § 160(c) to Accelerate
Investment in Broadband and Next-Generation Networks

WC Docket No. 18-141

DECLARATION OF DANIEL FRIESEN

1. My name is Daniel Friesen. I serve as Managing Member and Chief Innovation Officer of IdeaTek Telcom (“IdeaTek”), which I co-founded in 1999. My responsibilities include overall company strategy, high-level network design, and development of innovative strategies for rural broadband deployment.

2. IdeaTek offers voice, data transport, and broadband services to rural residential consumers, small businesses, schools, and small governments in South Central Kansas. We exclusively offer fiber-based broadband services, and we are the only gigabit-fiber provider in our service territory. In many cases, such as the Kansas towns of Bentley, Andale, and Mount Hope, the incumbent telephone provider (AT&T or CenturyLink) provides no broadband services in our service area, and a majority of our entire service territory has no cable operator. We also serve many unincorporated areas of Reno and Sedgwick counties, which have no cable or ILEC wireline broadband service providers.

3. Our standard broadband service package provides a standard 1 Gbps download speed and 10 Mbps upload speed with unlimited data usage for $70 per month for a residential customer and $150 per month for commercial businesses. We also offer a range of more advanced broadband and data transport services including symmetrical internet and point-to-
point data connectivity. We offer voice services for both residential and business customers. Our local exchange voice products which typically range in price from approximately $20 to $40 per month per line typically include all calling features for no additional charge and unlimited domestic long distance. We also offer advanced voice services such as PRI and VoIP/SIP trunking.

4. IdeaTek uses interoffice dark fiber transport UNEs to support its services to rural and underserved markets. We use dark fiber UNEs to connect from a more urban central office, where we can obtain critical wholesale broadband and transport services, to a more rural unserved central offices. Many of these rural unserved central offices, while containing ILEC fiber capacity, are not being used by the ILEC to provide broadband services to the last mile. In contrast, we utilize the ILEC’s unused dark fiber transport UNE in such support fiber-to-the-home services. Even where an ILEC central office may have broadband service, we often extend our service outside the ILEC service coverage area and start serving the rural farms and homes often unserved or served with lower-speed broadband. Specifically, these areas that lack fiber-speed services include rural unincorporated areas of Reno and Sedgwick counties around Hutchinson and Wichita, Kansas.

5. One specific and powerful example of the use of UNE dark fiber transport is our deployment in Andale, Kansas. Andale is an AT&T ILEC exchange, has a population of 928 people, and is located approximately 10 miles west of Kansas’ largest municipality, Wichita. As of 2016, the community had neither an ILEC nor cable-based wireline broadband product. Andale community leaders shared their frustrations with IdeaTek, questioning how the town’s broadband infrastructure could be left behind in this digital age for so long. They stated that they had requested, if not begged, both AT&T and the adjacent cable operator for more than a decade.
to deploy broadband in their community. They watched as adjacent communities such as Colwich (4 miles to their East) received broadband services from both AT&T and the cable provider. IdeaTek responded by deploying a business case using an AT&T transport fiber UNE located within the Andale central office to obtain the costly transport services needed to reach the community. We then deployed a fiber-to-the-home network to each resident using our own fiber. Today, in 2018, Andale is one of our most highly penetrated markets. We attribute that success both to the quality of our product and the lack of any entrenched wireline incumbents. Without access to AT&T’s transport fiber, this success story would likely not exist.

6. To further substantiate the power of competition driven by the use of UNEs, after our announcement of intentions to deploy fiber in Andale in 2016, the adjacent cable company subsequently announced it too would overbuild the community with fiber-to-the-home. It should not be understated how the emergence of competitive pressure changed the investment importance of competitors in this small rural community. Andale had been abandoned by AT&T and the cable provider, and for decades pleaded for broadband service. A competitive broadband market only emerged after IdeaTek took the innovative approach to use dark fiber UNEs to cost-effectively extend its network. We emphasize this point that the competition we created via UNEs was the trigger for other competitive investment to the significant benefit for the consumer in Andale.

7. It is also important to note that, just like the ILEC, IdeaTek simply cannot operate without these UNE dark fiber transport facilities, as they are integrated into our network backbone and serve both as a primary and sometimes critical redundant path to our network. Replacement through new construction would in many cases be cost prohibitive, and alternative provider options are typically limited. These areas often are not served by alternative fiber
providers, and if they are served, it is not at price points that are feasible for the high-cost/low-
revenue areas in which we operate. Further, where available, commercial lit and special access
services simply do not provide the ultra-capacity bandwidth at a price point we need for gigabit-
based broadband products.

8. IdeaTek has invested tens of millions of dollars in sustainable rural fiber optic
infrastructure. We expect to continue investing at least $2-3 million per year on new fiber optic
infrastructure. The loss of transport UNEs, which are an integral part of the connectivity of these
investments, will cause the company significant economic harm, erode local investment in next-
generation infrastructure, lead to the loss of high-paying technical jobs, and undermine the
economic support we provide to dozens of rural local businesses. Simply put, UNE forbearance
will reduce our ability to both invest in critical infrastructure for America and create competitive
pressures in still low-competitive markets and impede our ability to push further into unserved
rural markets.

9. IdeaTek believes that all Americans should have access to fiber-speed networks
today and that time and time again rural and remote Americans either get left behind or simply
endure the hand-me-down technology of a decade earlier. Dark fiber interoffice UNEs have
enabled IdeaTek to connect our last-mile fiber optic networks in remote and unserved areas of
Kansas to the company’s backbone and supporting facilities. Transport networks, especially in
rural and remote areas, can cost just as much, if not more, than the last mile deployment, and
thus without access to these UNEs our expenses in already high-cost areas will certainly
increase. We expect these increases to reach levels that may be unsustainable, or at a minimum,
be passed on to the end consumer, reducing the affordability of best-in-class service as well as
likely extinguishing the opportunities to continue deployment in unserved (wireline) areas.
10. The loss of UNEs would also have a serious negative impact on our customers. Without dark fiber interoffice transport UNEs, IdeaTek would have to decide on a community-by-community basis whether to raise prices or exit certain markets that have no feasible alternative for dark fiber transport.

11. IdeaTek has used dark fiber transport UNEs as an investment ladder to reach a point where we own our fiber transport facilities and eventually abandon the need to rely on ILEC infrastructure in some areas. We operate among industry giants. Indeed, much of our competition comes from the largest companies in America, with seemingly unlimited access to capital and resources. The disparity found in the American broadband market between the small business CLECs like IdeaTek and the entrenched monopolies or duopolies continues to beg for some reasonable forms of level playing fields. Without UNE access, in many markets IdeaTek would be slowed in deployment, and perhaps barred from deployment altogether. But with these UNEs we are able to establish a customer base, invest millions annually in advanced broadband infrastructure, and eventually replace UNE’s with our own facilities. Simply put, our contribution and investment to the competitive broadband landscape in Kansas would have been substantially hampered without access to UNE’s.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

______________________________
Daniel P. Friesen
August 3, 2018
Date
ATTACHMENT 12
In the Matter of 

Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks

WC Docket No. 18-141

DECLARATION OF JEFF RHODEN

1. My name is Jeff Rhoden. I am the Managing Partner of Origin Networks, LLC DBA InfoStructure. I have owned InfoStructure since 2003 and been involved in the telecom industry since 1995. My responsibilities include the strategic direction of the company and managing our financial health.

2. InfoStructure offers voice (via IP and TDM) and broadband services to small business, schools, and government customers throughout Oregon and Washington. Our TDM/copper services are primarily offered in the cities located along the Interstate-5 corridor\(^1\) and in the Central Oregon market of Bend.

3. Our commercial broadband service ranges from 1.5 Mbps best effort to 1 Gbps depending on the area and technology used (fixed wireless, UNEs, or fiber).

4. InfoStructure is not a fiber or copper/coax construction company so is 100% reliant on leased lines from other carriers including the incumbent local exchange carrier ("ILEC") CenturyLink. We use unbundled network elements ("UNEs") from CenturyLink to

\(^1\) These include the communities of Roseburg, Eugene, Springfield, Salem, Portland, Redmond, Medford, Ashland, Phoenix, Talent, Central Point, and Grants Pass.
provide many services to our customers. Specifically, we purchase DS0 copper loops, DS1
loops, DS3 loops, DS1 interoffice transport, and DS3 interoffice transport. Additionally from
CenturyLink, we purchase tandem connectivity (connectivity to the public switched telephone
network or PSTN), Signaling System 7 trunking (SS7) for call routing and Central Office (CO)
Collocation in 7 different COs throughout the state of Oregon. These critical CO locations are
where we connect our voice switches and data networks to each other, to the ILEC, and to our
customers.

5. We use UNEs as a last mile solution primarily. We have approximately 5000
UNE loops supporting almost 2000 customers who represent almost 40% of our total company
revenue. The breakdown of areas in Oregon served is as follows:

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<th></th>
<th>Portland</th>
<th>Willamette</th>
<th>Southwest</th>
<th>Coast</th>
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<td>19.9%</td>
<td>66.5%</td>
<td>0.5%</td>
<td>9.5%</td>
<td>0.2%</td>
</tr>
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</table>

6. Using DS0 UNEs, InfoStructure offers broadband speeds to business customers of
up to 100 Mbps download and 20 Mbps upload. Over DS3s, by contrast, the top speed is 45
Mbps.

7. The use of UNEs enables InfoStructure to 1) provide faster, more reliable service
than the ILEC due to bonding copper loops and providing higher feeder capacity, 2) support
TDM customers who specifically desire to not do business with the ILEC due to customer
service, product flexibility and pricing/billing issues, and 3) secure a reliable revenue source that
allows InfoStructure to continue re-investing in our own voice and data networks and stay
literally years ahead of the ILEC when it comes to the voice technology we offer our customers
and a world apart from the ILEC when it comes to customer service, business development, and
communications consulting.
8. The loss of access to UNEs would significantly affect our ability to continue to provide service in a number of markets where no other UNE alternatives exist. Even if existing UNEs are grandfathered in, we would not have the ability to add loops for speed increases or to make customer adds, moves, and changes. Services provided through UNEs are some of our lowest margin services so any increase would negate the advantages they provide today and force us to exit that market with UNE based services. That would also strand the hundreds of thousands of dollars of investment we have made in Colocation, DSLAMs, and other infrastructure that we built in order to provide service via UNEs and cause a loss of service to those customers, which include Jackson County library and school district. Because the loss of UNEs would result in a substantial financial hit on us it would impact our ability to fund new and advanced voice services in other markets.

9. DS0 copper loops, and in particular the xDSL-conditioned copper loops, are critical inputs to our network. Unlike a commercial offering such as a special access service, DS0 copper loops do not include ILEC electronics that determine what services can be offered over the loop. Rather, we deploy our own electronics on both ends of the DS0 loop. In this way, we can customize and control the services provided over the loop, including service quality and security. Some of our customers, including health care providers, banking customers, and governmental entities want Ethernet over copper, which we could not provide except over the DS0 loop and our own electronics. In fact, we have no control over the service at all if it transits any electronics by the ILEC. We are not aware of any wholesale commercial offerings in our service areas that would provide us with the same functionality as the DS0 loop.

10. For other UNE loops such as DS1s and DS3s, special access services are considerably more costly. Similarly, DS1 and DS3 transport services may be available but at a
substantially higher cost. The loss of UNE transport would eliminate the availability of EELs, which we use to provide voice services such as a PRI to remote customers. We provide a class of business PRI services to schools and businesses which would not be able to get the same service from the ILEC because they have not upgraded their facilities with the technology to provide such services.

11. The loss of UNEs would have a serious negative impact on our customers. The fact that we have a significant market presence is proof that consumers are not satisfied with the level of service provided by the ILEC. Customers would be forced to use their service, which in many cases fails to provide the same level reliability, routing flexibility, and disaster recovery options. Customers have chosen Origin for these qualities as well as price, outage response times, and customer service. Customers should continue to have the option for service of this caliber.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

Jeff Rhoden

8/4/18

Date
In the Matter of
Petition of USTelecom for Forbearance
Pursuant to 47 U.S.C. § 160(c) to Accelerate
Investment in Broadband and Next-Generation
Networks

WC Docket No. 18-141

DECLARATION OF BRIAN WORTHEN

1. My name is Brian Worthen. I serve as CEO at Mammoth Networks. I have been with the company and its parent organization for 17 years. My responsibilities include strategy and decision-making that results in broadband deployment in the most rural areas of Colorado, Wyoming, and Montana. More recently, I make decisions on where to deploy our own fiber and microwave (fixed wireless) infrastructure.

2. Mammoth offers voice and broadband services to residential, small business, medium-sized business, and wholesale customers in 20 communities in Colorado, 94 communities in Wyoming, and three communities in Montana. All but three of these communities have populations of less than 30,000. Mammoth and its affiliated companies are the only competitive broadband provider in 51 communities and unincorporated places in the region, all with a population of less than 1,000. Mammoth was the first to deploy broadband in more than a dozen rural communities. In some of those communities, other broadband providers followed. For example, within two years of us offering service in Ranchester, Wyoming, CenturyLink and the cable company rolled out their own broadband offerings. Likewise, CenturyLink rolled out its own DSL in Douglas, Wyoming less than six months after we rolled ours out.
3. Mammoth offers retail voice and broadband services over a variety of network types. Over its own fiber-to-the-premises network, Mammoth provides speeds of 1 Gbps/1 Gbps or an option to purchase 10 Gbps/10 Gbps. Using VDSL from fiber-fed remote terminals, Mammoth offers speeds of 80 to 100 Mbps download. In other areas, Mammoth has built out a fiber-fed fixed wireless network, over which it offers residential broadband service with 50 Mbps/5 Mbps and 100 Mbps/5 Mbps. In some areas, Mammoth offers DSL over copper loops at speeds of 15 Mbps download to 80 Mbps download.

4. Mammoth offers wholesale Ethernet transport service and dedicated internet access to regional fiber providers, independent local exchange carriers, small cable providers, utilities, municipal networks, and internet service providers at dedicated capacities, often with route redundancy as a specific requirement. Our customers use our transport to deliver traffic to and from their service areas to switches and peering points in locations such as Seattle and Spokane, Washington; Billings, Montana; Casper, Wyoming; Denver, Colorado; and Albuquerque, New Mexico, or to receive metro-priced bandwidth in the most rural corners of America.

5. Where and when possible, Mammoth deploys its own facilities to serve customers. Mammoth currently provides broadband to 2,883 customers over its own last-mile fiber network. In other areas, Mammoth has deployed its own fixed wireless last-mile solutions. At the time of this declaration, 9,284 customers are served over Mammoth’s own fixed wireless network, including 27 remote ranches in Wyoming that have no other terrestrial broadband option.

6. Mammoth also uses unbundled network elements (“UNEs”) from CenturyLink, the incumbent local exchange carrier (“ILEC”) in Mammoth’s service areas. Specifically,
Mammoth purchases DS0s and dark fiber interoffice transport UNEs. Mammoth also purchases subloops and has been instrumental in fiber builds to the ILEC pedestals to feed remote clients.

7. Approximately 8,700 of our customers are served in whole or in part over UNEs, either in the form of access services or unbundled fiber elements acting as middle mile components of our network. Some customers are also served over resold fiber.

8. Where Mammoth uses unbundled DS0 loops to serve its customers, Mammoth deploys its own electronics on each end of the loop, bonding up to eight pairs of DS0s to produce synchronous services for small and medium-sized businesses while exerting control over the quality of service for voice and security. This method of broadband deployment provides creative options for businesses that would experience higher prices if Mammoth were to order business data services using the ILEC equipment and electronics. There is no wholesale equivalent to the DS0 loop UNE available in Mammoth’s service area that would allow Mammoth to offer services of the same speeds and quality.

9. Mammoth also uses dark fiber transport UNEs to serve its customers. With Mammoth’s investment in electronics, a single dark fiber transport UNE can very efficiently serve the needs of many disparate customers. In Colorado, for example, we have a single interoffice fiber that serves the following: a WISP with 411 Mbps of traffic today, which represents approximately 250 to 275 customers; a WISP with 756 Mbps of traffic today, which represents approximately 900-1,200 customers; a college that that serves about 750 students remotely and another 1,500 students during the fall and spring semesters (these numbers do not include faculty and staff); a county employing 280 individuals; two cities employing 241 and 84 individuals, respectively; three schools districts totaling 4,064 students; the three offices of a power company that employs 70 individuals; a startup company that purchases Mammoth wholesale service in
building fiber-to-the-home in the community; another wholesale client offering voice to 14 retail business clients; and 12 retail business clients. A single interoffice dark fiber transport is supporting entire communities.

10. The use of UNEs enables Mammoth to expand into rural markets to provide a redundancy option or deliver service to businesses in the communities that are often underserved by the ILEC. In some cases, Mammoth faces other obstacles, such as obstacles and state legal hurdles that prevent access to rights of way, placing a large importance on UNEs.

11. The loss of access to UNEs would affect Mammoth’s ability to continue to provide service, limiting bandwidth to some rural markets and forcing Mammoth to purchase higher-cost transport and access services, limiting our ability to compete in markets where we have low adoption rates but are providing a competitive broadband alternative. For example, in Hayden, Colorado, Mammoth relies on the dark fiber transport UNE to connect the community to the rest of Mammoth’s network. Mammoth pays $1100 per month for this facility. If Mammoth instead had to purchase business data services from CenturyLink to meet this need, the price of the service would be between $4400 and $5200 per month, which would likely make service to Hayden too expensive to continue. In our service area, Mammoth has experienced five years of wholesale rates that are more expensive than the going retail rate, and rates are increasing. For example, a wholesale 10 Gbps Wave from CenturyLink costs far more than the same retail service. UNEs have been one bastion of hope for our company to deliver competitive services.

12. The loss of UNEs would also have a serious negative impact on our customers, particularly critical customers who need a reliable option for redundancy. We are the only route redundant option to three rural hospitals (in Douglas, Wyoming; Torrington, Wyoming; and
Steamboat Springs, Colorado), the two largest PSAPs in Wyoming, five counties including their Sheriff’s Offices, and 14 towns and cities. Mammoth also provides service to three distinct states, handling schools and state agencies such as the Department of Transportation, the Department of Family Services and a statewide VHF public safety communications system.

13. Mammoth has already been affected financially by higher prices for ILEC services, and the loss of access to dark fiber interoffice transport UNEs would increase our costs of serving rural markets by eight to nine times. This calculation is based on recent pricing obtained for wholesale finished services along the same path as Mammoth currently operates dark fiber interoffice transport UNEs. The resulting financial impact to Mammoth would limit the capital necessary to build fiber in the most rural of markets and would force the company to focus its broadband efforts on fewer rural communities.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

Brian Worthen

8/4/18
Date
ATTACHMENT 14
In the Matter of )
) Petition of USTelecom for Forbearance ) WC Docket No. 18-141
) Pursuant to 47 U.S.C. § 160(c) to )
) Accelerate Investment in Broadband and )
) Next-Generation Networks )

DECLARATION OF RAUL ALCARAZ

1. My name is Raul Alcaraz and I serve as the CEO at Race Telecommunications, Inc (Race). I have been with the company since its inception in 1994. My responsibilities include market analysis, contract negotiations, and vendor communication, as well as business development and daily operations.

2. Race offers voice, television, and broadband services to residential customers as well as small/medium-sized business customers and enterprise clients throughout the state of California over its own fiber-to-the-home network. Race focuses on unserved and underserved communities in Mono, Kern, and San Bernardino counties. In a lot of our smaller communities, we are the only terrestrial wireline broadband provider. Towns such as Chalfant, Johannesburg, Randsburg, and Red Mountain did not have any options other than expensive and unreliable satellite service prior to Race deploying service in those areas. Cellular service is also non-existent in large parts of these towns. Race is the only viable option for residents in these communities and reliable, fiber-to-the-home service.
3. Our residential broadband service provides symmetrical speeds up to 1,000 Mbps for $60 per month, as well as an affordable plan that provides service of symmetrical speeds up to 25 Mbps for $25 per month. Both plans offer unlimited usage. For small businesses, we offer 4 plans with symmetrical 25, 100, 250, and 1,000 Mbps service with unlimited data usage for $60, $120, $160, and $200 per month respectively.

4. Through the extensive statewide fiber network that Race has built, our company has been a benefit to both enterprise and wholesale Customers. Mojave Air and Space Port in Mojave, CA was Race’s first large scale fiber project, which was facilitated in part by structured access at the regulated tariff rate. This project allowed Mojave to become the leading private Space Port in the nation. It also allowed other carriers to now be able to lease dark fiber from Race to reach tenants of the Space Port, in addition to the anchor tenants that Race serves directly. Race has been able to offer the same high quality service in other markets. We offer wholesale Ethernet transport service to other carriers, CMRS providers, and internet service providers at tailored capacities.

5. Where and when possible, Race deploys its own facilities to serve customers. But in other areas, Race purchases UNEs, including DS1, DS3, and dark fiber interoffice transport UNEs. Without UNEs, Race would face an increase in costs as ILECs would be able to charge higher commercial rates for access to their networks. With increased deployment costs, Race would be less likely to enter new markets where structured access or UNEs are needed, and would refrain from expansion in those regions.

6. The use of UNEs enables Race to serve unserved and underserved markets that would normally not be feasible due to the cost of deploying networks in these markets—as is evidenced by the lack of broadband services in these markets. UNEs uniquely assist our ability
to build fiber facilities to remote areas with particularly challenging terrain, and UNEs facilitate a more expedited and cost efficient deployment of the middle mile needed for these types of projects.

7. Today, Race has passed over 15,000 homes and businesses in rural, unserved, and underserved communities with its own last-mile fiber network and is in the process of building our fiber network out to an additional 10,000 homes and businesses by the end of 2019. Our customers have long been ignored and forgotten by larger carriers and depend on us for adequate and reliable broadband. Our company’s fiber network helps bring significant improvements to local businesses, education, community services, and public safety. Without UNE access, Race would be unable to provide service to a significant number of residents in Occidental, CA leaving them without vital emergency services.

8. We currently provide service to hundreds of residents in Occidental, CA—this project was deployed using a dark fiber UNE from the Occidental central office back to the San Francisco central office. This project would have been substantially more difficult and resource intensive had it not been for the ability to use the interoffice dark fiber UNE as part of the middle mile component. In fact, Race would more than likely have been unable to provide service to the community had it not been for this.

9. The loss of access to UNEs would affect Race’s ability to continue to provide service to communities such as Occidental, CA. Specifically, Race would be forced to discontinue service to the community and abandon plans for expansion in the region. It would lead to a significant loss of investments and would negatively impact the residents and their access to health and fire services.
10. We have experienced that upon our entry into rural markets using existing middle mile systems and UNEs, existing providers have been forced to upgrade their networks to keep a significant market share. Our first residential fiber project that brought fiber to the home to an entire city was Boron, CA. Boron had the option of Spectrum (Charter) for video service only and Frontier for phone service, but neither company offered broadband. Today, Spectrum has improved its offering in the community and now offers speeds of up to 100 Mbps and offers more reliable and affordable phone and television services than in the past. The same is true in Phelan, CA. Since the announcement of our entry into this market, Frontier has begun deploying upgrades to its existing system in the community, though none of the upgrades have gone live and have yet to benefit the existing customers in the region. Occidental, CA is a market where the loss of our services could be detrimental. There have been no substantial upgrades on AT&T’s part since our entry into the market. This fire-prone community in Sonoma County would be left without adequate broadband and vital communication services.

11. Without access to UNEs, it would be far less likely that Race could contemplate deploying new fiber facilities in communities such as Occidental as it would significantly increase the cost and resources needed to provide service.
I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

/s/ Raul Alcaraz

Raul Alcaraz
Chief Executive Officer
Race Telecommunications Inc.

August 4, 2018

Date
ATTACHMENT 15
In the Matter of
Petition of USTelecom for Forbearance)
Pursuant to 47 U.S.C. § 160(c) to Accelerate)
Investment in Broadband and Next-Generation)
Networks)

WC Docket No. 18-141

DECLARATION OF R. MATTHEW KOHLY

1. My name is R. Matthew Kohly. I am the Director of Government and Carrier Relations for Socket Telecom, LLC (“Socket”). My business address is 2703 Clark Lane, Columbia, MO 65202. At Socket, I am responsible for federal regulatory and legislative matters, state regulatory proceedings and complaints, including interconnection negotiations and arbitrations. I am also responsible for negotiating and maintaining Socket’s interconnection agreements with incumbent local exchange carriers as well as contracts with other telecommunications carriers and service providers. I manage the department that handles matters relating to our local exchange service operations, including ordering unbundled network elements (“UNEs”) from incumbent local exchange carriers (“ILECs”), number porting, and 911 service. In addition, I work on business development matters including planning where Socket will deploy fiber-optic network facilities.

2. I am filing this declaration on behalf of Socket in opposition to the Petition by USTelecom in WC Docket No. 18-141, In the Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks.
Background of Socket

3. Socket is a privately held company headquartered in Columbia, MO. Socket’s predecessor, Socket Internet, started out as an Internet Service Provider in 1994, focusing on bringing internet to the rural parts of Missouri. In many areas, Socket Internet was the first internet provider in the community. In 2001, Socket was founded as a facilities-based Competitive Local Exchange Carrier (“CLEC”) and Interexchange Carrier (“IXC”). Socket continues to focus primarily on the rural areas of Missouri outside of Kansas City and St. Louis providing voice, data, internet, and video services to residential and business customers. As of May 2018, 81% of the DS1 Loops and DS1 EELs and 99% of the xDSL-capable loops that Socket relies upon in Missouri fall outside of the Kansas City and St. Louis Metropolitan Statistical Areas. This is taking the broadest definition of an MSA by including an entire county even if only a portion of the county falls within the MSA. In many instances, Socket is the only competitive alternative available in these more rural areas.

4. Socket is a member of Federation of Internet Solution Providers of America, which is an association of smaller and midsized CLECs. Socket’s Chief Operating Officer serves on its board and as an officer. We are also a member of INCOMPAS. Socket has been a member of Midwest Association of Competitive Carriers (“MACC”). Through participation in these organizations and other industry functions, we routinely interact with other carriers and understand that other CLECs are similarly situated to Socket and have the same reliance on UNEs and resale as Socket and use UNEs and resale as a market entry tool for deploying fiber optic network facilities.

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1 For a definition of MSA, see http://marc.org/Data-Economy/Metrodataline/General-Information/Statistical-Areas#msa and http://www.stlregionalchamber.com/regional-data/demographics.
5. Socket competes against the AT&T (Southwestern Bell) and CenturyLink (CenturyTel of Missouri, legacy Embarq of Missouri, and Spectra Communications) ILECs and their families of national and international affiliates. These competitors are larger, have national brand names, and have more financial and business resources than new entrants such as Socket. AT&T boasts of being the largest communications company in the world, with 16 million internet connections in service.\(^2\) CenturyLink claims to have 450,000 route miles of fiber and to be among the largest providers of communications services to global enterprise customers.\(^3\) While nowhere near the size of the giant behemoths of AT&T and CenturyLink, Socket believes it is an effective competitor against these global companies in its markets; offering more advanced and customized services on more innovative terms of technology, billing, and customer service. Socket prides itself on its customer service and believes that is the reason many customers with a choice choose Socket. Socket relies upon a metric known as the “Net Promoter Score” (“NPS”) to ensure we are offering a superior level of service to our customers. The NPS measures a customer’s likelihood of recommending Socket to a friend or colleague.\(^4\) Respondents answer on a scale from 0-10, with respondents answering 9 and 10 being classified as “promoters,” those answering 7-8 being classified as “passives,” and those answering 6 or below classified as “detractors.” The NPS is calculated by subtracting the percentage of detractors from the percentage of promoters. The industry average percentage NPS for telecommunications companies is 0 and some providers even have negative scores.\(^5\) Socket’s recent residential survey from April 2018 covering all residential services showed a NPS

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\(^2\) [https://investors.att.com/investor-profile](https://investors.att.com/investor-profile)

\(^3\) [CenturyLink, Inc. Form 10-K, page 4.](https://investors.att.com/investor-profile)

\(^4\) [https://customer.guru/net-promoter-score/](https://customer.guru/net-promoter-score/)

\(^5\) [https://customer.guru/net-promoter-score/centurylink](https://customer.guru/net-promoter-score/centurylink)
percentage of 61.01, with many “promoters” commenting on Socket’s customer service and billing as the primary reasons they were likely to recommend that someone they know do business with the company. Socket provides its residential service using “Not a Penny More” billing, meaning the price we tell customers is the price they pay. Socket includes the taxes and surcharges in the quoted price and does not disguise additional charges to appear as required taxes, such as “Regulatory Cost Recovery Fee” or “Internet Cost Recovery Fee” as many of our competitors have done. Also, Socket does not impose usage caps on its internet services.

6. Through the use of its own fiber facilities, UNEs, and other services, Socket can provide telecommunications and data services to end-users in hundreds of exchanges in Missouri and neighboring states. Socket’s residential services include voice, video, and broadband services provided at speeds up to 1 Gbps over its own fiber network and voice and DSL-based internet services with speeds up to 50 Mbps when provided over UNE DS0 xDSL-capable copper loops. Over 75% of the copper DS0 loops that Socket leases are used to serve residential customers. Socket’s small business services include voice and internet services up to 1 Gbps over its own fiber network and voice and DSL-based internet services up to 100 Mbps when provided over UNE xDSL-capable copper loops when provided using ADSL and VDSL technologies. Over both its own fiber network facilities and leased UNE facilities, Socket provides advanced services such as MPLS, dedicated data, packet-based services, and other telecommunications services such as hosted PBX voice service. Socket is able to provide these same services at greater speeds and with more reliability over its own fiber network than leased UNE facilities; which is why Socket prefers to use its own fiber network when it is available.

7. As stated earlier, Socket focuses more on rural markets in Missouri outside of Kansas City and St. Louis. Socket provides service in a number of exchanges where Socket is
the only competitive choice. Socket’s customers include churches, K-12 schools, universities and community colleges including their satellite locations, medical facilities, skilled nursing and long-term care facilities, ambulance districts, law enforcement agencies, governmental entities, as well as your standard businesses. Socket also serves residential customers. In the event this Petition is granted, many of these customers will lose their competitive choice and only be able to purchase service from the ILEC.

8. Even when a county may have a cable company serving a town in the county or a fiber middle-mile transport carrier serving other carriers and a few larger enterprise customers, that does not represent a competitive option for residential and small to medium-sized business consumers not located in the current footprint of a cable company or the fiber-carrier serving only carriers and enterprise level customers. It is our experience that cable companies are generally not investing to expand their networks in rural towns or, in some cases, even to new customer sites within their current network footprint. In central Missouri, I am working with several real estate developers who have told me CenturyLink is not expanding into new residential areas unless the developer pays them to do so. We have also seen where the cable company is not expanding into new residential developments. Socket deployed facilities in some of these areas at no cost to the developer. Because of this, there are residential areas where Socket is the only telecommunications and broadband provider. Several of these areas are supported by a Socket fiber-optic transport ring that has UNE interoffice dark fiber in portions of it. Over time, Socket has replaced some segments of this ring with its own interoffice dark fiber as it deployed it and will continue to do so as it expands.

9. Likewise, AT&T has refused to expand into new residential developments in some areas. For example, there are subdivisions central Missouri where there are no landline
services available in exchanges where AT&T is the incumbent because AT&T refused to install any landline facilities. Based upon discussions with city officials, AT&T continues to not install landline facilities to new residential subdivisions in the area. This is occurring in exchanges where Socket purchased UNE DS1 EELs to initially serve customers and is now installing fiber-optic broadband to provide telecommunications and broadband services to business and residential customers. Socket is currently working with a developer in another rural AT&T exchange to install fiber-optic broadband facilities to a new subdivision where neither AT&T nor the cable company is deploying facilities. This is also an exchange where Socket initially provided voice and broadband services in the exchange with DS1 loops and EELs, later expanded service offerings by relying xDSL-capable loops, and is now deploying fiber-optic broadband facilities to serve residential and business customers. Had the incumbent LEC deployed fiber-supported networks in these situations, these DS0 copper loops would not have been required to be unbundled. Clearly, the availability of UNEs does not create a disincentive for investment in networks as the Petition claims, as Socket continues to expand its networks in markets where UNEs were available and the ILEC could have deployed new fiber-based loop facilities in these locations without unbundling obligations.

10. It is also our experience that fiber middle-mile transport and enterprise level providers do not move down-market to serve small to medium-size businesses and residential consumers even in areas where they have fiber facilities. Also, many of these larger middle-mile and enterprise level providers only provide data services and do not provide any voice services. Without Socket’s access to UNEs to help construct networks to build customer bases and expand its network, consumers and businesses in these situations will lose their competitive choice because the only other provider is the incumbent.
11. While regulators tend to disregard traditional TDM-based technologies such as local ISDN-PRI and consider these to be outdated, the FCC still recognized that TDM services remain necessary for customers because of higher prices of packet-based services or costs associated with replacing equipment that rely on legacy TDM services.\textsuperscript{6} Legacy TDM services include everything from plain old telephone service to ISDN-PRI service. There are exchanges in Missouri where no other carrier besides Socket provides local ISDN-PRI service. In most of these exchanges, Socket is only able to provide this service at this time through the use of UNE DS1 Loops and DS1 EELs until it can deploy its own facilities or find another option. While the lack of local ISDN-PRI service from carriers besides Socket occurs in the non-metropolitan areas, it is not limited to counties that the Federal Communications Commission (“FCC”) classified as non-competitive in the BDS Order. Local ISDN-PRI allows these customers to send multiple Caller ID numbers letting them differentiate specific locations or departments. Being able to differentiate specific locations is critical for customers in a campus environment needing to make emergency calls to law enforcement or emergency response agencies to let them know the specific location of the emergency. An example of a Socket customer where this service is critical is a state law enforcement agency that needed a local ISDN-PRI as a fail-over service to route calls to its headquarters site in the event the remote site served by Socket lost connectivity. Without the law enforcement agency incurring the cost of upgrading its current telephone equipment, this fail-over functionality while retaining feature parity is not possible without the functionality provided by a local ISDN-PRI at the remote location served by Socket. Socket provides this service through UNE EELs. Socket would not be able to provide this

\textsuperscript{6} Business Data Services in an Internet Protocol Environment, Report and Order, 32 FCC Red. 3459, 3471 ¶ 25 n.70 (2017) (“BDS Order”)}
service and meet this customer’s needs with access to UNE EELs. To our knowledge, Socket is the only competitive choice this customer had to meet its specific needs.

12. Through its interconnection agreements with the ILECs, Socket interconnects for the exchange of voice traffic. Socket leases UNEs including inter-office dark fiber, xDSL-capable copper loops, DS1 loops, DS1 EELs, which are combination DS1s loops, cross-connects, and DS1 interoffice transport, DS-3 loops. Socket is also connected through ILEC selective routers to 99 Public Safety Answering Points (“PSAPs”) for providing E-911 services and can provide Basic 911 in 35 additional exchanges where public agencies have not yet purchased E-911 service from the ILECs and have not established PSAPs. Socket relies upon UNE facilities and trunking purchased through its ICAs to reach these selective routers.7 Socket also relies upon 911 call routing services and access to 911 databases provided by incumbents purchased through our ICAs.

13. Socket also uses Section 251(c)(4) avoided-cost resold services purchased through its ICAs to provide voice services in some situations. This is especially useful in reaching small, remote locations that only need voice-services.

14. Socket provides voice services, DSL-based internet services, and more advanced data service over various xDSL technologies including ADSL, VDSL, SHDSL, and HDSL over DS0 xDSL-capable loops. Socket’s residential DSL service provided over DS0 xDSL-capable loops has speeds up to 50 Mbps while the business DSL service has speeds up to 100 Mbps.

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7 In Missouri, ILECs charge public safety agencies for providing E-911 services, including charging for facilities and trunking from central offices to the central office where the ILEC’s selective router is located. Under arbitration decisions, CLECs such as Socket pay the ILECs for facilities and trunking to connect from the Point of Interconnection to the ILEC central office where the ILEC’s selective router is located. I am not aware of any CLEC, including Socket, which has been permitted to charge a public safety agency for providing E-911 service and recover these costs. This is another example of the disparity between ILECs and CLECs.
Through the use of SHDSL service, Socket can provide dedicated Ethernet over copper service to speeds in excess of 200 Mbps over UNE DS0 xDSL-capable loops.

15. Socket also relies upon DS1 and DS3 loops and DS1 EELs to provide voice and data services to areas that cannot be reached with xDSL-capable loops. Socket can provide standard TDM voice services over these as well as packet-based services, dedicated internet, and advanced data and telecommunications services. Socket can stack or bond DS1 loops or EELs together to reach higher bandwidth levels for voice and data services. By using UNE DS1 EELs, Socket does not have to be collocated in the same wire-center as the customer and can provide service to distant customers. This is especially useful in reaching remote customers such as rural schools, medical clinics, and businesses as well as customers with multiple locations where Socket is the only competitive choice. A previous FCC decision limits the number of EELs that a CLEC may purchase to a single site to ten. This limits the data speeds to a maximum speed of 15 Mbps via bonded DS1s.

16. To access these UNEs, Socket is collocated in numerous ILEC central offices and wire-centers throughout Missouri. Socket has additional collocation applications pending and was in the process of submitting other collocation applications when this Petition was filed. Socket is connected to several of its collocation facilities through the use of unbundled inter-office dark fiber. Where feasible, Socket also connects some of its collocations through the use of its own fiber transport facilities.

17. The purported economic study attached to the Petition dismissively equates CLECs relying on UNEs as “asset-light service providers” with no incentive to build their own networks. That unequivocally is not true in the case of Socket. Socket’s goal is to add as many customers on its own network as possible. Socket currently has over 500 miles of its own fiber
transport and distribution network serving both residential and business customers. Socket continues to expand that network and is actively constructing new network facilities. This is taking place in markets where Socket started with no outside plant but was serving customers via Section 251(c)(4) avoided-cost resold services and UNEs; including exchanges where Socket is currently collocated and continues to rely upon to UNEs as it expands its network.

18. Socket is investing in its facilities. As will be explained in more detail, access to UNEs makes this construction possible. This clearly demonstrates that access to UNEs does not create a disincentive for investment and the construction of Socket’s own network.

Requirement for Granting Forbearance

19. In granting forbearance, the FCC can only forbear from any statutory provision or regulation if it determines that: (1) enforcement of the regulation is not necessary to ensure that the telecommunications carrier’s charges, practices, classifications, or regulations are just, reasonable, and not unjustly or unreasonably discriminatory; (2) enforcement of the regulation is not necessary to protect consumers; and (3) forbearance from applying such provision or regulation is consistent with the public interest. In making such determinations, the Commission also must consider pursuant to section 10(b) “whether forbearance from enforcing the provision or regulation will promote competitive market conditions.”

20. USTelecom’s Petition request does not meet that criteria. In fact, quite the opposite. If granted, USTelecom’s Petition would harm competition, harm consumers, is not in the public interest, and would allow for discriminatory practices and charges. It is also

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unnecessary as there are already natural forbearance mechanisms in place that can provide the relief from providing UNEs that USTA is seeking.

21. The Commission has recently recognized the importance of UNEs as a competitive alternative.\(^{10}\) In approving the merger of XO Holdings and Verizon Communications Inc., the Commission confirmed that UNEs were readily available and would continue to be available to other competitors in the future.\(^{11}\) The continued availability of UNEs was confirmed as recently as the BDS Order.\(^{12}\) Granting USTelcom’s Petition would be contrary to these recent findings.

**Socket Relies Upon UNEs as Means for Building a Customer-Base and Reducing Barriers to Entry to Enter Markets and Deploy Fiber Facilities**

22. Socket is actively constructing new fiber optic network facilities in exchanges where Socket has an existing customer base served via UNEs. This includes markets where Socket is collocated and serving customers through DS0 copper and DS1 loops and in markets where Socket is not collocated but is serving customers through DS1 EELs. The Commission recognized that CLECs rarely build on speculation.\(^{13}\) That is true for Socket; a carrier of Socket’s size does not have, and cannot raise, capital to spend based upon speculation. The use of UNEs is an important tool in allowing Socket to develop a customer base so that it can later deploy a fiber-optic broadband network to reach those customers. Prior to collocating in an exchange, Socket can use DS1 EELs to serve customers as that does not require Socket to have facilities in the same wire-center as the customer. Over 50% of the UNE DS1 circuits that

\(^{10}\) BDS Order, 32 FCC Rcd. at 3470, 3476 ¶¶ 21, 32-34.

\(^{11}\) Application of XO Holding and Verizon Communications Inc. for Consent to Transfer Control of Licenses and Authorizations, WC Docket No. 16-70, Memorandum Opinion and Order, WC Docket No. 16-70, 31 FCC Rcd 12501, 12516-17 ¶ 30 (Verizon/XO Order)

\(^{12}\) See n. 10, supra..

\(^{13}\) BDS Order, 32 FCC Rcd. at 3459 ¶ 50.
Socket purchases as UNEs are EELs. This allows Socket to develop a customer base in an exchange prior to deploying facilities in an exchange to help fund the construction of a network. Serving an area with EELs requires Socket to establish 911 in that exchange. If the public safety agency for that area has purchased E-911 from the ILEC in that exchange, Socket will need to purchase facilities and trunking from the ILEC through our ICA to connect to its selective router and need access to the E-911 database for placing subscriber records.

23. With the start of a customer base served via EELs, Socket can then collocate in an ILEC Central Office and expand its product offering through the use of DS0 loops and DS1 loops. This allows Socket to provide residential voice and broadband services as well as expand its business service offerings to a broader range of businesses; from small businesses purchasing just voice lines and DSL service to enterprise level businesses purchasing more advanced telecommunications and data services. In many instances, Socket relies upon UNE Interoffice Dark Fiber for connecting these collocations back to its network.

24. With the start of a customer base, Socket can then begin constructing a fiber-optic network to reach its existing customers. Socket is also able to add additional customers as it deploys its own network as it is able to expand its service offerings and its presence in a market. Without an existing customer base providing a cash-flow, it would be much more difficult to fund the construction of a fiber-optic broadband network.

25. Just as one example, Socket overbuilt the small town of Fayette, MO with fiber to the residences, businesses, and public agencies. This small town with less than 3,000 people has three middle-mile fiber transport carriers, two of which also offer service to enterprise customers. It also has AT&T as the incumbent providing telecommunications services in the town. The cable company had recently withdrawn services from the town. For small and
medium size business the only choice of landline broadband and voice services was the ILEC and Socket via UNE DS1 EELs. Residential customers had no choice for landline broadband and voice service until Socket deployed fiber facilities in the town.

26. Initially, Socket was able to build a customer base to serve small and medium sized businesses through the use of DS1 EELs. With that customer base, Socket was able to deploy a fiber network and serve those customers and gain additional customers as it built the broadband network. Through its fiber broadband network, Socket initially served the business customers and public agencies but later expanded to serve residential customers. This is just one example of a community where Socket was able to use UNEs to initially serve a market and then later construct a fiber network. Examples such as this would not be possible without access to UNEs. This example also demonstrates one where Socket still remains the only competitive telecommunications and broadband choice for residential and small and medium sized business customers despite the fact that there are four other companies with fiber-optic telecommunications facilities in the town.

27. The use of UNEs also allows Socket to lower the barriers to entry into a new market. Socket is currently working to deploy fiber-optic facilities in three new markets, expanding fiber-optic facilities in almost of all of its existing fiber markets, and is researching additional UNE markets where Socket can deploy broadband facilities. In entering new markets with its own facilities, Socket faces ILECs as a competitor and sometimes a second provider if there is a cable provider in that exchange. Both have established networks serving a broad customer base. In some cases, there may be an additional regional competitor that is a transport provider that may also offer service only to large enterprise customers. These carriers have an incumbent competitive advantage and do not face the same barriers to entry as Socket faces as a
new entrant. These barriers to entry include the length of time it takes for the initial construction of a network in a new market, and the higher cost of constructing a new network in a brownfield environment with established business or residential areas, among others. Without access to UNEs, the higher cost of building a network without an existing customer base to financially support that network is even more burdensome. Socket relies upon UNEs and resold ILEC service to enter markets by lowering barriers to entry.

28. Building a new network in established business or residential areas takes significant time. In the BDS order the FCC concluded that a network construction build could be done in three to four months. This conclusion, if correct, was for a network extension and not the initial construction of a new network. The initial construction of building a backbone and establishing a new network can take much longer. The new entrant often has to obtain a pole attachment agreement, learn the permitting process with the municipality, research right-of-way and easement locations and rules, obtain construction and right-of-way permits, line-up a backhaul solution, obtain easements for locating a hut or cabinet, if necessary, easements for placing facilities, as well as complete a fairly extensive backbone, lateral and drop build. This takes longer and is more costly than just merely the half mile network extension contemplated by the BDS Order.

29. The incumbent does not face similar costs or obstacles. For example, Socket has experienced instances where the incumbent was able to deploy fiber to the home network facilities much more quickly and less costly than if Socket had made the same build. The incumbent was able to use their existing plant records to have pre-engineered facilities designed

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14 BDS Order, 32 FCC Rcd at ¶ 50.
15 Ibid.
and manufactured. They then simply over-lashed these facilities to their existing aerial copper facilities with no permitting or pole engineering analysis. Their construction was faster and much less expensive than if Socket had installed comparable facilities in this same area. For Socket to do the same build in that area, it would have required a pole engineering analysis, potentially make-ready work to get the poles ready for new facilities, coordinating moving existing facilities with the incumbent to make room for Socket’s facilities on those poles, installing Socket’s new attachments and strand, and then lashing Socket’s new fiber facilities to that strand.

30. Costing more and taking longer for a new entrant is also true in the case of underground construction where it is also much more costly and time consuming to deploy facilities in a brownfield environment where businesses and residences are in established areas. It is Socket’s experience that when constructing underground facilities in established residential and business areas, the cost of boring alone can be anywhere from 6 to 20 times more expensive than constructing facilities in a greenfield environment. This demonstrates the importance of having an existing customer base rather than building on speculation. The impact of this can be somewhat mitigated through the use of UNE loops and EELs as Socket can turn-up service using these UNE facilities, build a customer base, earn revenue, and then move customers to its facilities once they are complete.

31. There are additional disparities that affect construction as well. Socket routinely has to stop construction to explain to upset property owners that Socket does, in fact, have a legal

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On August 2, 2018, the FCC adopted its Third Report and Order and Declaratory Ruling in Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment, WC Docket No. 17-84, WT Docket No. 17-79, implements a one touch make-ready process for pole attachments. When effective, this will simplify the process for simple make-ready for wireline attachments. While Socket certainly supports implementing an OTMR process and ending the moratorium on placing new poles, this is only one step in an otherwise time consuming process that the ILEC typically does not face.
right to be in their back yard installing new network facilities because there is an existing utility easement, has to obtain additional permits for its crews to construct facilities after regular hours, and various other items in order to avoid having its crews shut down and delaying construction. In some communities, Socket has faced a moratorium on new entrants installing poles in the Right-of-Way, even in instances where electric transmission lines were in the same area. This prohibits Socket from using aerial facilities to avoid the costly expense and time of directional drilling through solid rock. Meanwhile, in most of these instances, the incumbent is just assumed to be doing maintenance and does not face similar obstacles. While these items may seem immaterial, they compound, add time, expense, and delays to the construction process.

Often, access to UNE loops and EELs can be used as a transitional mechanism to provide service while new entrants such as Socket work through these disparities and deploying its own facilities. Having an existing customer base served through UNE facilities also allows Socket and similarly-situated new entrants to withstand the competitive response advantages the incumbent providers have because of their existing networks. For example, once an incumbent realizes Socket is building a fiber network in one of their exchanges or cable serving area, they are able to lock up customers with term contracts while Socket constructs its fiber network; preventing customers from switching to new entrants. Having an existing customer based served through UNEs mitigates this as Socket can provide service while it constructs its network and keep customers from signing term contracts with the incumbents. In a several instances, Socket used xDSL-capable DS0 loops and provided deeply discounted service to residential customers while it constructed its fiber network in order to keep them from signing term contracts with the ILEC and the cable company.
32. In many instances, the ILEC has one other distinct advantage. That is the copper networks they are being required to unbundle were funded, at least in part, from “regulatory revenues” that they received by virtue of being an ILEC. According to CenturyLink, these annual regulatory revenues “consist of Universal Service Fund ("USF") and Connect America Fund ("CAF") support payments and other operating revenues.”17 CenturyLink describes the USF and CAF revenues as, “government subsidies designed to reimburse us for various costs related to certain telecommunications services.”18 In 2017, CenturyLink reported receiving $732 million in regulatory revenues, which is about half of the almost $1.5 billion in dividends CenturyLink paid out to its shareholders in 2017.19 All retail interstate telecommunications revenues, including Socket’s, are assessed the USF and CAF fees to provide payments to ILECs and their shareholders. You would be hard-pressed to conclude this does not provide the incumbents with a competitive advantage.

17 CenturyLink, Inc. Form 10-K, Fiscal Year ended December 31, 2017, pg. 54.
18 Ibid.
19 Ibid. pg. 55, Ibid, pg. 140.
UNEs Provide a Means for a CLEC for a Ubiquitous Network to Compete with Larger Competitors and Meet Customer Needs

33. Access to UNEs is necessary for Socket and similar CLECs to have the capability of having ubiquitous networks to serve customers where we have not yet constructed or have yet found ways to serve these locations with commercially available services with pricing, terms, and conditions that are just and reasonable. This is especially true for serving multi-location customers and is necessary in order for Socket to compete with the larger ILECs and their competitive affiliates who enjoy these marketplace advantage of ubiquitous networks and economies of scale.

34. A significant percentage of Socket’s business customers have multiple locations. These customers range from customers with one main location with several satellite locations to customers with numerous locations where each would be considered small to medium sized businesses. In either scenario, the sites can be spread across broad geographic areas, with locations often in rural areas, and where Socket is frequently the only competitive option they may have.

35. In order to seriously compete in this market segment, a carrier must be able to provide a full-range of telecommunications and data services with end-to-end connectivity between these customers’ various locations, while ensuring high quality and reliable service, and do so at competitive prices. Even small gaps in coverage results in a significant competitive disadvantage. The services these customers need ranges from basic local and long distance voice service, ISDN-PRI services, private lines, and dedicated Ethernet services to more advanced and sophisticated services such as MPLS and WAN services and related services such as data backup, storage, and retrieval services.
36. This is why access to UNEs loops, EELs, inter-office dark fiber is so critical. No new entrant of Socket’s size can compete with incumbents and their nationwide competitive affiliates without access to UNEs. Socket can do so using a combination of its own network facilities and piecing networks together from multiple ILECs through its ICAs that allow access to UNEs and resale, as well as competitive options where available, and combining these components together to form virtual end-to-end networks. In many instances, Socket has deployed its own last mile fiber facilities to reach some of these customer locations. Socket will then supplement its own facilities with access to UNEs or resold ILEC services until it can deploy its own facilities.

37. As an example, Socket has one customer with over 90 locations. This customer is a health care provider that provides skilled nursing, assisted living, and senior services, with facilities spread throughout Missouri. Most locations are in rural areas and considered to be small to mid-sized businesses. Socket serves their locations by purchasing UNE DS0 and DS1 Loops, UNE DS1 EELs, resold ILEC services, and where possible, using Socket’s own fiber facilities. Socket continues to expand its fiber network to reach this customer’s locations and convert them over to its own network. While Socket sought competitive options besides UNEs and resale for all of these locations, Socket was only able to find competitive alternatives for two of them. In those two locations, Socket is purchasing circuits from XO, now affiliated with Verizon, under a term plan. Without access to UNE and ILEC resold services, Socket would not able to serve this customer, meet this customer’s needs, and provide a competitive alternative. In most of the exchanges where this customer is located, including ones located in counties the FCC has classified as competitive in the BDS order, Socket is the only competitive alternative this
customer has. Granting this petition would be the opposite of protecting consumers and promoting competition.

38. Another example of a multi-location customer served through a combination of its own facilities and UNEs is a community college where Socket serves the main campus with its own fiber, but serves satellite campuses in other exchanges through EELs. Socket provides telecommunications and dedicated data services to the main location and these same services with backup call routing at the remote locations. The only way Socket could serve this multi-location community college and provide it with a competitive choice for all of its locations is through the availability of DS1 EELs. Over time, Socket will convert these satellite locations to its own network or seek other options as we expand our network to additional communities in Missouri. Socket is currently in the process of converting one of the satellite locations to its own recently expanded network.

39. Customers such as this need a competitive choice that can serve all of its locations. This is not just for mere convenience purposes such as single bill. This is required for Socket to have the ability to provide integrated network services such as MPLS, hosted voice services, or failover capabilities. This also allows these customers to have a single point of accountability for the telecommunications services they purchase. It also allows them to operate their satellite locations or branch offices as extensions of the primary location, allowing them to shift traffic across their networks in the event a power interruption or disaster threatens to disrupt services at one location.

40. The need for UNEs to provide for a ubiquitous network is not limited to broad geographic areas. The same needs also exist within the same exchange for customers with multiple sites within the same exchange. Socket may be collocated and relying upon UNEs DS0
and DS1 loops while also having fiber facilities in that same exchange. In this scenario, Socket may be able to reach one of the customer’s locations with its own facilities but not the customer’s other locations within the same exchange because of the cost of construction to reach all locations. Over time, Socket will be able to expand its broadband network to reach the other locations and convert them to its own network.

41. Accessing UNEs and allowing the CLEC to have a broad ubiquitous network also allows CLECs such as Socket to turn-up customers quickly while expanding its own network facilities. This is necessary when competing with an incumbent provider that already possesses a ubiquitous network with facilities into a customer location that is able to turn-up customers in a matter of days as compared to a new entrant that may take weeks to place a drop or months to expand its existing network to reach a customer location. In today’s on-demand society, potential customers simply will not wait for a new entrant such as Socket to construct network facilities to reach their locations. Access to UNE facilities provides an important stop-gap for meeting this demand.

42. These examples also demonstrate that the availability of UNEs is not a deterrent for Socket and similarly situated carriers to deploy their own last-mile fiber networks as claimed by USTelecom. Quite the opposite, the availability of UNEs is what makes it possible for Socket to deploy its own network to customer locations. The ongoing availability of UNEs makes it possible for Socket to keep providing customers with a competitive choice where it will not be possible to deploy fiber in the near term and certainly not based upon the speculation of hopefully gaining customers.
Eliminating UNEs will create significant stranded investment and termination expense

43. Socket has invested millions in establishing collocation arrangements in ILEC central offices, purchasing equipment to place in these collocation arrangements, and paying UNE non-recurring charges (“NRCs”) to obtain UNE loops and interoffice dark fiber. Socket has also invested in constructing its own fiber-optic network facilities to connect collocation arrangements. In addition, Socket has entered into transport agreements with third-party carriers to connect collocation arrangements. In many cases, these agreements are with affiliates of the Petitioners. These transport agreements have contractual obligations such as early termination fees (“ETFs”) and waived NRCs that Socket will have to repay if cancelled. While collocation arrangements may not be directly eliminated if the Petition is granted, there is no need for a collocation arrangement if it cannot be used to access UNEs. This significant investment would become stranded if the Petition were granted. Additionally, Socket would incur additional expenses from having to pay ETFs and waived NRCs when it cancelled transport circuits that were no longer needed. Socket would even have to pay ILEC collocation NRCs to file applications and pay for decommissioning work in order to abandon existing collocation arrangements.

44. This stranded investment and additional expenses is true even with the transition period proposed by USTelecom. Socket is in the middle of a major core network reconfiguration that is requiring Socket to enter into new 36 or 60 month contracts that involve transport between collocation arrangements. Socket cannot simply put this network reconfiguration on hold pending this Petition proceeding. Several of Socket’s current transport arrangements terminated in June of 2018. This forced Socket to enter into new 36 month contracts to have transport arrangements in place after these terminated. These arrangements
include routes between collocations which would become wasted expenses in the event this
Petition is granted.

45. In addition to eventually becoming stranded, the investment in collocations, UNE
non-recurring charges, and transport expenses would become immediately devalued because of
the proposed moratorium on ordering additional UNEs. Limiting UNEs only to the embedded
base would mean that Socket could not even respond to simple requests, such as adding an
additional line, or accommodate requests for a move. This does not even address the larger
problem of not being able to serve new customer locations or adding new customers. Limiting
UNEs only to the embedded-base during a transition period will place serious competitive
limitations on new entrants such as Socket.

Commercially Available Services are Not Options

46. Commercially available services offered by ILECs are not feasible options to
replace UNEs. First, there are no commercially available options for DS0 copper loops offered
by any ILEC that I am aware of. Certainly, there are none in Missouri offered by AT&T or
CenturyLink that Socket could utilize to serve customers out of its current collocations. Over
half of Socket’s collocation arrangements in ILEC central offices are at remote locations where
the only UNE loops that Socket can access are UNE DS0 copper loops, as DS1 and DS3 UNEs
are not available at these locations.

47. Unlike a commercial offering, such as a special access services, DS0 copper loops
do not include ILEC electronics that determine what services can be offered over the loop.
Rather, Socket can deploy its own electronics on either end of the DS0 loop. In this way, Socket
can customize and control the services provided over the DS0 loop, including service quality and
security. This provides greater flexibility that purchasing finished services such as UNE-P
replacement voice services or resold DSL services does not.
48. Businesses, including health care providers, banking customers, and governmental entities, as well as traditional businesses, have specific service requirements that demand copper DSO loop-based services for a number of reasons, one of which is that the service is line-powered and is therefore more reliably available than other voice services, such as VoIP services, which require power at the customer premises. In light of this characteristic, these customers rely on TDM-based business telephone service for medical alerts, fire/sprinkler monitoring, gas pipeline monitoring, bank vault, burglar alarms, elevators, and even back-up data connections. They do not view other voice services, including VoIP services or wireless voice services, as substitutes for TDM-based telephone services.

49. With no commercially available option for access to DS0 copper loops, there are services, market segments, and significant investment in collocations and equipment that Socket would just have to abandon.

50. Similarly, there is typically no competitive alternative for dark fiber between incumbent central offices. Very few competitive providers sell dark fiber; especially outside of the metropolitan areas. Even where they do, it is not between incumbent central offices, as these providers are not collocated in those central offices. Access to interoffice dark fiber is critical to Socket to be able to connect collocations in incumbent central office in order to connect those to its own network.

51. Special Access DS1s and DS3s are also not feasible options for several reasons. First, is the just the sheer cost. For example, with CenturyLink of Missouri, Special Access DS1 Loops can range from 140% to 189% higher than Socket’s average cost of UNE DS1 loops depending on the term. Combinations of Special Access DS1 Loop and DS1 Transport range
from 368% to 390% higher than Socket’s cost of UNE DS1 EELs. These are costs that a new entrant simply could not absorb and Socket’s customers cannot pay.

52. The fact that the Petition originally proposed a 15% increase in all UNE rates demonstrates the incumbents believe they have the market power to subject Socket and similarly-situated UNE customers to significant price increases. Even if USTelecom is no longer proposing that the initial 15% price increase applies to the existing UNE-base, it does propose that all new UNEs purchased during the transition period would be addressed via “commercial negotiations or at tariff services”. It is my belief that the fact that USTelecom already proposed a 15% increase in all UNE rates demonstrates the minimum price hike we can expect for new orders would be at least 15% and, given their market power, most likely much higher.

53. In addition, Special Access circuits come with a term; typically one to three years. Socket relies upon UNEs to build a customer base and then convert that base to its own network once it completes the construction of that network. Purchasing circuits under a term delays that process as Socket would have to wait for that term to expire or pay the ILEC early termination fees. Clearly, abandoning UNEs in favor of Special Access creates a barrier to entry in this situation.

54. There is also no guarantee that commercially available services will continue to be available, much less available on commercially favorable terms. CenturyLink itself recognizes the risk of relying upon purchasing network capacity and services from other companies; especially those that compete against it. CenturyLink recently reported to its shareholders that, because of its reliance upon third-party networks, it was “exposed to the risk that the other carriers may be unwilling or unable to continue or renew these arrangements in the future on terms favorable to us, or at all. This risk is heightened when the other carrier is a
competitor who may benefit from terminating the agreement or imposing price increases.”

CenturyLink went on to report, “If we lose these arrangements and cannot timely replace them, our ability to provide services to our customers and conduct our business could be materially adversely affected.” The concern about this risk is from the second-largest U.S.-based communications provider to global enterprise customers. Obviously even a carrier of Socket’s size would share in that same concern.

55. Socket’s concern about the loss of access to commercially available services is heightened by the terms and conditions of some of its contracts for commercially available Ethernet services provided by incumbents LECs or their affiliates. In these contracts, there are provisions that allow the underlying provider to cancel existing contracted services or limit the future availability of services. Meanwhile in order to purchase services under these contracts, Socket is required to enter into binding purchase orders with the underlying provider for services with one to three year terms and early termination penalties if Socket cancels the service prior to the end of the term. With these terms, the underlying provider is completely protected in the event Socket cancels service early while Socket is left completely at risk if the underlying provider decides to cease providing the wholesale service.

56. The loss of UNEs would also have a serious negative impact on Socket’s customers. Given the unavailability of comparable facilities to DS0 copper loops and the uneconomic terms of commercially-available substitutes for DS1 and DS3 loop and transport services, Socket will be required to cease serving some customers or cease providing certain services to customers. This would include Socket ceasing to provide service to its entire base of

21 Ibid.
residential, business, and governmental customers receiving voice and DSL services from Socket that are provisioned over DS0 xDSL-capable loops where Socket could not construct broadband facilities prior to the end of the transition period.

57. For customers where Socket could theoretically provide service to them via commercially available substitutes, such as DS1 and DS3 special access services, the cost increase would be so great that customers could not afford services from Socket and would effectively lose their competitive option.

**ILECs Have Existing Forbearance Remedies Including the Ability to Shed Their Unbundling Obligations**

58. The Triennial Review Order (“TRO”) and Triennial Review Remand Order (“TRRO”), as well as Socket’s existing ICAs provide that ILECs already can stop providing UNEs in certain competitive situations. For example, in the case of DS1 loops, incumbents are not required to provide unbundled DS1 loops in wire centers with at least 60,000 business lines and four fiber-based collocators. Socket has faced both the prohibition on ordering DS1 loops in certain ILEC central offices and the 10 DS1 cap in several situations. This demonstrates that these forbearance provisions are effective.

59. By limiting the quantity of DS1 loops to a single building to a maximum of ten loops, resulting in a maximum speed of 15 Mbps, DS1 loops and DS1 EELs also face a natural forbearance as the size of business consumer’s bandwidth demand increases over time. The speed at which this occurs will be increased depending upon how quickly the ILECs upgrade their networks. The ILECs can increase the drop in demand for DS1 loops and DS1 EELs by accelerating their supply of broadband and next generation networks at competitive rates for consumers. The relief from unbundling these facilities is within their own hands and relieving them of this obligation removes any incentive to upgrade their existing networks.
60. Incumbents also do not have to unbundle dark fiber loops or hybrid loops; which are loops that have a portion of the loop made up of fiber. They simply have to deploy fiber facilities and retire their copper facilities; meaning incumbents no longer have to unbundle copper loop facilities. This fiber deployment can even be paid for by USF and CAF subsidies discussed above. This acts a natural forbearance and that actually creates an incentive for the ILECs to deploy fiber in their networks. This natural forbearance is what should actually accelerate the incumbent’s investment in broadband and advanced networks.

61. This does not mean the incumbent necessarily has to deploy fiber to the premises to achieve in practice substantial elimination of unbundling obligations. In some cases where Socket has lost access to copper DS0 loops, the incumbent deployed fiber facilities in the feeder portion of the loop to feed remote cabinets and then retired the copper feeder cable. This created hybrid loops since a portion of the loop now contained fiber and the incumbent did not have to unbundle that loop. In these scenarios, the incumbent received what it is seeking here—relief from its obligation to provide Socket with unbundled DS0 loops from the central office to the end user (although not subloops if the CLEC could reach the remote terminal, which is more difficult for the CLEC). The incumbent achieved this by investing in placing fiber in that portion of its network. Granting this Petition would actually remove that incentive.

Conclusion

62. For the reasons provided above, this Petition must be denied as it does not meet the requirements for granting forbearance. The unbundling requirements of Section 251 and 252 still serve their original goal, which is to “let anyone enter any communications business -- to let any communications business compete in any market against any other.”23 These requirements

are still important tools for new entrants such as Socket to use when entering telecommunications markets to compete against much larger incumbent carriers. These requirements ultimately allow new entrants such as Socket to be able to construct broadband networks and deploy more advanced and innovative services, ultimately promoting a competitive marketplace and the public interest.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

/s/ R. Matthew Kohly

R. Matthew Kohly
8/3/2018

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

In the Matter of

Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks

WC Docket No. 18-141

DECLARATION OF DUSAN JANJIC

1. My name is Dusan Janjic. I serve as President at Virginia Global Communications systems, Inc. (“VGCS”). I have been with the company for 22 years. My responsibilities include overseeing day-to-day operations of the company. As a rural provider of broadband services, we rely on unbundled loops to deliver broadband in rural areas of Rockbridge County, Virginia – the single county where VGCS provides service.

2. VGCS offers voice and broadband services to residential and small and medium-sized business customers in Rockbridge County. The county is located in west central Virginia, west of the Blue Ridge Mountains. Although both Interstate 64 and Interstate 81 cross the county, it is otherwise a very rural area. The total population (2010 Census) is 22,307, of which a total of 13,850 reside in the two independent cities of Lexington and Buena Vista. The rest are scattered throughout the county in small villages, very small subdivisions, and individual homes. The county is subdivided by a mountain, has several other mountains, many hills, and a fairly narrow river valley. Many homes are in isolated valleys. Because of this topology, wireless data coverage and even cell phone service becomes unreliable in the more rural parts of the county, and fixed wireless cannot be deployed in many areas. In those areas, copper based high speed data is often the only viable option. There are a number of areas in the county where the copper
UNE based high speed data service we provide is the only option available. Unfortunately, census block information is generally not granular enough to show this.

3. VGCS provides voice and broadband service to residential and business customers, with broadband provided via xDSL, fiber-to-the-home, and fixed wireless. Our retail xDSL offer starts at $49.00 for unlimited data usage at 5 Mbps download speed and 1.5 Mbps upload speed. Our highest speed offer via xDSL service is $80.00/month for 25 Mbps download speed and 10 Mbps upload speed. These services are offered exclusively over unbundled DS0 loops and subloops. Our fiber-to-the-home service starts at 25 Mbps download speed and 5 Mbps upload speed at $59.00/month. Our highest broadband offer is symmetrical 1 Gbps service for $750/month. Over fixed wireless we offer speeds ranging from 25/5 Mbps to 100/50 Mbps. VGCS doesn’t differentiate the pricing for residential or business customers.

4. VGCS is an official partner in public private partnership in the Rockbridge Area Network Authority, RANA. RANA was formed as a result of a BTOP grant and has built around 100 miles of middle mile fiber. In order to improve the reach of the middle mile network during the construction of this network VGCS has contributed to the build out of remote xDSL facilities around the county. Some of these facilities utilize RANA middle mile fiber to provide higher uplink speeds to the cabinets. As a result VGCS is able to offer true broadband speeds over UNE DS0 loops and subloops leased from Century Link.

5. Where and when possible, VGCS deploys its own facilities to serve customers by extending RANA middle mile network to end users. Approximately 300 of its customers are served over VGCS’s own last-mile facilities, some of which are fiber and some of which are fixed wireless.
6. VGCS also purchases DS1 loops as well as DS1 transport UNEs, and UNE subloops for connection to our collocated remote cabinets when the ILEC has installed remote cabinet sites to shorten the loop length. Approximately 600 of our customers are served using DS0 loops or subloops.

7. VGCS uses DS0 UNE loops and subloops as a last mile to customer premise to provide broadband and VoIP service to end users. DS1 UNE’s are used for backhaul transport between remote location and Central Office. These loops are bonded to provide higher backhaul bandwidth.

8. DS0 copper loops/subloops, and in particular the xDSL-conditioned copper loop, are critical inputs to VGCS’s network. Unlike a commercial offering such as a special access service, DS0 copper loops do not include ILEC electronics that determine what services can be offered over the loop. Rather, VGCS can deploy its own electronics on either end of the DS0 loop. Some of our rural customers live beyond the reach of ADSL technology. Using a combination of DS0 subloops and proprietary technology, we are able to provide them with DSL service. Without DS0 sub loops, they would not be within reach of any currently available high speed data service. VGCS is not aware of any wholesale commercial offerings in our service area that would provide us with the same functionality as the DS0 loop/subloop.

9. The use of UNEs enables VGCS to gather sufficient market share to be able to deploy our own last mile facilities. Without the use of UNEs first, VGCS would not have been able to gather sufficient market share to justify its own builds.

10. The loss of access to UNEs would affect our ability to continue to provide service. There is no wholesale alternative to the DS0 loop or subloop. Special access alternatives for customers currently served by DS1 loops, and for transport, would be far more
expensive and those costs would have to be passed on to the customer if they can be sustained at all.

11. For other UNE loops such as DS1s and DS3s, commercial offerings like special access services or other business data services may be available. However, they are substantially more expensive. In our area, transitioning from UNE DS1 to Special Access T1 would more than double our backhaul cost. Due to the very rural footprint and small customer base of many areas we serve, the doubling of backhaul cost would make continuation of service cost prohibitive and would force us to discontinue service.

12. The loss of UNEs would have a serious negative impact on our customers. Some of our customer base does not have any other option for their broadband service. Approximately 150 households would likely lose any broadband option.

I declare the foregoing to be true and correct to the best of my knowledge, under penalty of perjury.

Signed
Dusan Janjic
August 4, 2018
Date