

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

_____)	
In the Matter of)	
)	
International Comparison and Consumer)	GN Docket No. 09-47
Survey Requirements in the Broadband Data)	
Improvement Act)	
)	
A National Broadband Plan for our Future)	GN Docket No. 09-51
)	
Inquiry Concerning the Deployment of Advanced)	GN Docket No. 09-137
Telecommunications Capability to All Americans)	
in a Reasonable and Timely Fashion, and Possible)	
Steps to Accelerate Such Deployment Pursuant to)	
Section 706 of the Telecommunications Act of)	
1996, as Amended by the Broadband Data)	
Improvement Act)	
_____)	

**COVAD COMMUNICATIONS COMPANY
COMMENTS IN RESPONSE TO
NBP PUBLIC NOTICE #11**

Anthony Hansel
Assistant General Counsel
Covad Communications Company
1750 K Street, NW
Suite 200
Washington, DC 20006
(202) 220-0410 (tel)
(202) 833-2026 (fax)
ahansel@covad.com

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Executive Summary

Covad Communications Company respectfully submits its comments in response to the Public Notice released in the above-referenced dockets by the Federal Communications Commission (the “Commission”). Covad supports the Commission’s holistic review of its broadband policies, data collection efforts, and related issues in connection with the effort to develop a National Broadband Plan, and also welcomes the Commission’s focus on the middle mile as a critical -- and, to date, often overlooked -- component of broadband deployment. The foundation of any successful broadband policy must rest not upon mere consideration of what speeds seem appropriate for today’s requirements, but rather upon promoting access to and availability of next-generation applications like high definition video-conferencing, distance learning, telemedicine, telecommuting, and other forthcoming transformational applications. These next-generation applications require video-level quality of service and adequate upload speeds, and the Commission’s policies will only succeed as a long-term measure if it approaches broadband as a means to an end -- specifically, as the conduit for access to such transformational applications.

In order to support such transformational applications, the Commission must focus on policies to reduce and eliminate bottleneck facilities, including both middle mile and last mile facilities that, as discussed further herein, may in certain cases because of cost or capacity constraints limit the effectiveness of the broadband experience for end users. The Commission must ensure that next-generation fiber backhaul facilities are deployed in a manner, and subject to policies, that promotes competition, innovation, and efficiency. In this way, the Commission can remove access bottlenecks, reduce consumer costs, and promote the public interest.

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I. Introduction and Summary

Covad Communications Company (“Covad”) respectfully submits its comments in response to Public Notice (“Notice”) released by the Federal Communications Commission (“FCC” or “Commission”) on October 8, 2009 in the above-captioned dockets.¹ Pursuant to the American Recovery and Reinvestment Act of 2009 (“Recovery Act”),² and as part of the Commission’s development of the National Broadband Plan (“Plan”),³ the Notice seeks input on

¹ FCC Public Notice, *Comment South on Impact of Middle and Second Mile Access on broadband Availability and Deployment, NBP Public Notice # 11, Pleading Cycle Established*, GN Docket Nos. 09-47, 09-51, 09-137, DA 09-2186 (rel. Oct. 8, 2009) (“Notice”).

² See American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009) (“Recovery Act”).

³ Recovery Act § 6001(k).

the cost and availability of middle mile and second mile facilities and how they affect the objectives of making affordable, high-quality broadband available to all Americans.

As one of the nation's largest independent providers of broadband services, Covad has an acute interest in the Commission's development of the National Broadband Plan. Covad supports the Commission's holistic review of its broadband policies, including those specifically aimed at encouraging efficient deployment and use of middle mile and second mile facilities.⁴ The effort to promote ubiquitous and affordable broadband access at the retail level will require substantial investment and realignment of regulatory policy at, among other places, the middle mile network layer.⁵ The issue of middle mile access has been before the Commission for a

⁴ The Notice defines "second mile transport" as "the transport and transmission of data communications from the first point of aggregation (such as a remote terminal, wireless tower location, or HFC node) to the point of connection with the middle mile transport." Notice, at 1. Likewise, the Notice defines the "last mile," as the facility from the RT to the end user's premises. See Notice, at 2. Through these definitions, the *Notice* would separate what the Commission and the industry has traditionally defined as the "local loop" into two new and distinct parts (the "second mile transport" and "last mile"). In fact, "second mile" is not *transport* at all in the context of a wireline network, but rather part of the loop plant used to deliver services to end users. Thus, while Covad certainly welcomes a focus on the need for competition and better use of the so-called "second mile" as part of the larger loop, the Commission should not take any steps that would somehow give credence to the theory that the "second mile" is somehow distinct and separate from the loop or that it instead reflects a transport element. Importantly, Covad therefore urges the Commission to evaluate and recognize the necessity of access to the *whole loop* from central office to customer premise for competitive broadband service. Such access is crucial to bringing competitive broadband services to the majority of Americans.

⁵ Numerous parties from across the telecommunications and information service industry have informed the Commission for the critical need for backhaul, middle mile services -- and the potential perils of deploying last-mile broadband network facilities without adequate middle mile transport to support those last mile networks. "The consumer experience is definitely affected by the availability, adequacy and price of middle mile services...." Comments of the Consumer Federation of America and Consumers Union, Docket 09-51, at 23 (June 9, 2009). "[B]ackhaul -- or 'middle mile' broadband -- is essential for wireless networks to provide mobile broadband service nationwide." Comments of T-Mobile USA, Inc., Docket No. 09-51, at 11 (June 8, 2009) "Thus, ensuring competitive access to necessary inputs like ... backhaul will be crucial to advancing Congress' and the Commission's policy goal of nationwide broadband." *Id.* "Both fixed and mobile facilities require access to 'middle mile' facilities in order to provide broadband to customers in rural areas." Comments of the USA Coalition, Docket No. 09-51, at 8 (June 8, 2009). "Middle mile [backhaul] telecommunications links play a central role in the availability and operation of virtually all telecommunications services." Comments of Rural Cellular Association, Docket 09-51, at 10 (June 8, 2009).

number of years,⁶ and Covad has participated in many of those proceedings by raising concerns on special access and related issues.⁷ To promote retail broadband availability and affordability, the Commission must adopt a policy that spurs competition by providing competitive access to bottleneck facilities in the middle mile and also in the second mile/local loop, fosters innovation, lowers costs, and spurs investment. Doing so will ultimately drive prices lower for the retail broadband consumer, improve services, and ultimately benefit the public interest. To encourage competition in this area, the Commission must: 1) eliminate monopoly bottlenecks in the middle mile to the greatest extent possible, especially by focusing on middle mile and related access costs, and 2) provide carriers with reasonable end-to-end access to loop facilities, including next-generation fiber facilities and elements that make up the so-called “second mile” portion that is a critical component of the local loop.

II. Bandwidth-Intensive Applications Will Require Regulatory “Future-Proofing” in the Middle Mile and Throughout the Broadband-Oriented Network

Notice Questions 1.a. & 1.b.: ... [H]ow much middle mile [and second mile] capacity is needed to provide adequate broadband Internet access to that end user connection? How does the needed capacity ... vary by the number of customers or usage characteristics of the customer base in a particular location? How does this capacity vary based upon the usage patterns or demands of particular end user customer segments?

⁶ Dan O’Shea, *Battle for the Middle Mile*, Telephony Online (June 5, 2006). The Commission has also spent considerable time considering, and then re-considering, special access reform issues. See *Special Access Rates for Price Cap Local Exchange Carriers*, WC Docket No. 05-25, *AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, RM-10593, Order and Notice of Proposed Rulemaking, 20 FCC Rcd 1994 (2005) (*Special Access NPRM*); FCC Public Notice, *Parties Asked to Refresh Record in the Special Access Notice of Proposed Rulemaking*, WC Docket No. 05-25, RM-10593, FCC 07-123 (rel. July 9, 2007). The Commission has in the recent past also effectively released the largest providers of the highest-capacity middle mile transport -- those “middle mile” facilities that are most likely to be used to support broadband deployments -- from nearly all regulation on all routes, regardless of the dominant position they may hold on any given route. See, e.g., *Petitions of AT&T Inc. and BellSouth Corporation for Forbearance Under 47 U.S.C. 160(c) from Title II and Computer Inquiry Rules with Respect to its Broadband Services*, WC Docket No. 06-125, Memorandum Opinion and Order, FCC 07-180 (rel. Oct. 12, 2007) (“*AT&T Broadband Forbearance Order*”).

⁷ See, for example, Covad’s Joint Comments and Joint Reply Comments, WC Docket No. 05-25, filed on August 8, 2007, August 15, 2007, October 11, 2007 and November 8, 2007.

Although stimulus efforts may still be required in particular areas of the national broadband market, the growth in broadband traffic demands over recent years -- and the demands that broadband will place on legacy networks -- are striking.⁸ The dramatic increase in access via wireless broadband -- which often then is “pulled back” to fiber networks for backhaul -- is especially remarkable.⁹ The inability of carriers to obtain affordable end-to-end access, and especially middle mile backhaul and last mile loops, is a competitive bottleneck that may stifle the ability of last mile providers to keep up with consumer demand.¹⁰ The Plan, and the tools

⁸ See Home Broadband Adoption 2008, Pew Internet & American Life Project, June 2009, at 11 (providing trends in broadband adoption). See *id.*, at 25-29 (showing that retail broadband pricing is going back up). Covad believes that one of the primary underlying reasons for the recent increase in broadband prices at the retail level may be the squeeze on middle mile and backhaul costs, which in turn is being caused by increases in broadband demand. See *id.* at 33 (showing consumer demand for telemedicine broadband applications, and related high-capacity applications). As more users turn to broadband to communicate with health care providers, workplaces, educational institutions, and other critical community services, there will be a significant spike in middle mile and backhaul Internet traffic. See also Comments of Level 3 Communications LLC, Docket No. 09-51, at 6 (June 8, 2009) (providing statistics on the bandwidth needed for HD video and other broadband content. “One hour of standard definition television requires 1,350 MegaBytes per hour of bandwidth to watch online; one hour of high definition TV requires nearly 3,600 MegaBytes per hour or about three times the amount SD; ... the bandwidth required for HD TV is 4,000 times a standard email and 63 times the bandwidth of a music file.”). Thus, next generation broadband applications, such as those that require high definition video content, will place significant strains on the middle mile transport network -- requiring deployment of capacity where insufficient transport exists and/or requiring augmentation of facilities that were not engineered to handle such traffic in the first instance.

⁹ See, e.g., Michael J. Copps, Acting Chairman, Federal Communications Commission, Bringing Broadband to Rural America, Report on a Rural Broadband Strategy, (May 22, 2009) (“*Rural Broadband Report*”) (discussing the promise wireless networks hold for expanded rural broadband deployment). See also Connected and On the Go, Report by the Wireless Broadband Access Task Force, Federal Communications Commission (Feb. 2005).

¹⁰ “In some rural areas ... the availability of backhaul for mobile broadband services -- or of middle mile connectivity for rural broadband providers, whether fixed or mobile -- may pose an obstacle to the private investment that would otherwise provide wider broadband availability.” Response of Verizon and Verizon Wireless to August 5 through August 20, 2009 Workshops, Docket No. 09-51, at 18 (Sept. 15, 2009). See also National Telecommunications Cooperative Association Initial Comments, Docket No. 09-51, at 37 (June 8, 2009) (““The cost of purchasing Internet capacity on a per megabit basis has gone down in some instances over the last several years; however, in response to customer demand, small rural broadband providers are buying more and more capacity. Therefore, rural ILEC Internet total capacity costs are increasing....”). See also Workshop Response of T-Mobile USA, Inc., Docket No. 09-51, at 6 (Sept. 15, 2009) (citing Mr. Ponte of Lemko Corp., who explained that radio used to be the bottleneck of networks, but now that backhaul networks are taking that place). “The Plan should focus both on the

used to implement it (including any policies the Commission may adopt concerning middle mile access facilities), must be forward-looking in order to meet the increased demands that U.S. consumers will place on our broadband infrastructure.

Thus, the foundation of any successful middle mile policy must rest not upon how to meet *today's requirements*, but rather upon promoting access to and availability of next-generation applications like high definition video-conferencing, distance learning, telemedicine, telecommuting, wireless broadband, and other forthcoming transformational applications.¹¹ These next-generation applications require video-level quality of service (“QOS”) and adequate upload speeds, and the Plan will only succeed as a long-term measure if it approaches broadband as a means to an end -- specifically, as the conduit for access to such transformational applications, which will ultimately strain the network used to deliver those services, resulting in rising costs for carriers, and ultimately consumers. Middle mile costs contribute significantly already to the broadband prices that end users pay,¹² and numerous parties have already demonstrated to

deployment of robust facilities in unserved and underserved areas and on dismantling existing last- and middle-mile bottlenecks that impede the provision of competitive, affordable and robust broadband services.” Comments of the Computer and Communications Industry Association, Docket No. 09-51, at 4 (June 8, 2009).

¹¹ See Home Broadband Adoption 2008, Pew Internet & American Life Project, June 2009, at 33 (noting that 65 percent of broadband users said it was “very important” or “somewhat important” to use broadband to communicate with health care or medical providers).

¹² NTCA reports that one company, for example, has found that total bandwidth costs for backhaul purposes have increased by 105% between 2001 and 2008. National Telecommunications Cooperative Association Initial Comments, Docket No. 09-51, at 37 (June 8, 2009). Moreover, according to a study conducted by NECA earlier this decade, “[t]he basic conclusion is that high-speed Internet service is uneconomic in many rural telephone company territories. Revenue shortfalls will not disappear as the market grows, they will actually increase because operating margins remain negative at higher levels of demand. This sobering conclusion suggests that high-speed Internet service may not be sustainable in many rural areas based on pure economics.” See NECA Middle Mile Cost Study, Executive Summary, available at: https://www.neca.org/cms400min/NECA_Templates/ResourceInterior.aspx?id=107. See also Sean Buckley, *Bridging the Rural Telco Middle Mile Divide*, Fierce Telecom (Sept. 17, 2009).

the Commission that backhaul can be a significant problem.¹³ The QOS-level applications discussed above will simply add to the middle mile crunch already experienced. This dynamic can be seen particularly in the mobile market where traffic and the cell towers to which one must connect to exchange that traffic are dramatically increasing, thereby exacerbating the need for affordable and high-capacity middle mile transport.

As a forward-looking approach to make the Plan a key component of a larger social and economic transformation, Covad has proposed, among other things,¹⁴ that the Commission establish policies that support small business broadband adoption. The Commission must adopt pro-competitive policies (such as preservation of copper loop plant, pricing reform, and special access reform) that will enable more carriers to offer business-class broadband services to small businesses. Providing more carriers with the ability to compete effectively in the provision of broadband -- by promoting a more vibrant and competitive market in the last mile and middle mile inputs to those services -- will stimulate adoption and drive more efficient use of existing broadband platforms.

III. Recommendations to Increase Broadband Access and Availability

Notice Question 5.a.: How do firms compete in providing middle mile transport services? How does competition differ between middle mile transport and second mile transport services? Does the nature of competition vary between areas in which high-speed transport network facilities are already in place, as opposed to areas in which such facilities would need to be constructed in

¹³ See, e.g., Comments of the United States Telecom Association, Docket No. 09-51, at 18 (June 8, 2009). (“Some areas may have loop lengths amenable to last mile solutions with a reasonable cost but the expense of broadband transport between such areas and the Internet backbone may be prohibitive.”). See also Comments of the Organization for the Promotion and Advancement of Small Telecommunications Companies, Docket Nos. 09-47, 09-51, 09-137, at 15 (Aug. 31, 2009) (“the high cost of transport to the Internet backbone makes the business case for offering speeds much beyond ‘basic broadband’ difficult, if not impossible, in some rural service areas.”). “And the end user’s recurring cost is really not determined by anything else except the cost of backhaul which everyone else on the panel has mentioned is a key hurdle to any sort of rural deployment.” Statement of Brett Glass, CEO, Lariat.net, National Broadband Plan Workshops, Technology/Wireless, at 121 (Aug. 13, 2009).

¹⁴ The proposed plans are set forth in additional detail in Covad’s Comments in GN Docket No. 09-51 (filed June 8, 2009).

order to provide the connectivity requested by the customer? To what extent does a lack of competitive alternatives over some circuits that a particular customer demands affect or limit the ability of that purchaser to acquire or self-provide particular circuits for which alternatives may be available?

Competition across the entire broadband access network is imperative to ensure that end-users receive affordable broadband services. The lack of competition at the middle mile and the local loop, however, threatens to stall deployment efforts, and raise retail broadband service costs. The way that the Commission can guarantee affordable, ubiquitous broadband deployment across the U.S. at the consumer level is to create policies that give competitors access to as many facilities as possible, at reasonable prices and terms. Increased access, including to bottleneck facilities, will necessarily reduce carrier costs, which will ultimately translate to greater retail availability and affordability. The U.S. needs enhanced competition, including access to bottleneck fiber facilities, to achieve universal broadband access. Since the implementation of the 1996 Act, Covad – the first company to offer retail DSL services in the U.S. – has been a competitive force in reducing the price of bandwidth to consumers and businesses across the nation. As Chairman Kennard noted, “Although DSL technology has been available for years, it was not until the passage of the Act that competitive providers -- called data LECs or DLECs -- specializing in DSL deployment were born and began offering DSL service to consumers. ... Once the DLECs had access to the inputs necessary to offer their DSL products to consumers, the threat of such competition spurred the BOCs to develop their own DSL products.”¹⁵ Faced with competition, local phone companies have been forced to respond through both lower pricing of services and the development of infrastructure. But, the telephone compa-

¹⁵ Statement William E. Kennard, Chairman Federal Communications Commission, Before the Committee on the Judiciary, United States House of Representatives on H.R. 1686 - the "Internet Freedom Act" and H.R. 1685 - the "Internet Growth and Development Act" (July 18, 2000), available at: <http://www.fcc.gov/Speeches/Kennard/Statements/2000/stwek096.html>.

nies did not deploy DSL services until competitors began to do so.¹⁶ In recent years, however, promotion of innovation has taken a back seat to an interest in protecting purported investments by ILECs in higher-capacity facilities. It is unclear, however, that this path can deliver any further benefits to consumers, as pricing for retail broadband services has begun to tick upward¹⁷ and, as the Recovery Act acknowledged, large sections of the country remain unserved and underserved. Thus, it is time for the Commission to prioritize the promotion of competition and the promise it offers in terms of innovation, expansion, and affordability. Along with targeted government investments and consumer education to stimulate demand, competition will drive both technological and infrastructure development and benefit consumers in innumerable ways.

A. Optical-Level Services Regulatory Reform

Notice Questions 4.b. & 4.e.: To what extent do providers self-provide or integrate components of middle mile and/or second mile transport? Are certain types of providers ... more likely to self-provide these services, perhaps because they can utilize that bandwidth not only for broadband Internet access but also for the delivery of video programming?

The increase in high-bandwidth applications is placing great demands on middle mile and even second mile/local loop facilities in some cases. Covad and other carriers ultimately need reasonable access to optical-level facilities, which will ultimately support high bandwidth needs. At a time when it is readily apparent and all agree that migration to fiber backhaul networking is necessary to accommodate anticipated demands, it is striking that the services that are perhaps most needed to support that migration -- ILEC high-capacity transport services -- are now virtually deregulated. Indeed, the state of this market is no longer clear, as ILECs were released nationwide from what was already relatively flexible regulation, notwithstanding that they may

¹⁶ Similarly, when MCI introduced low-priced long-distance services, AT&T was likewise forced to alter its strategies and services to the benefit of American consumers. As precedent has shown, robust competition delivers high broadband penetration and speeds at reasonable prices.

¹⁷ See Home Broadband Adoption 2008, Pew Internet & American Life Project, June 2009, at 25-29.

hold a monopoly or near-monopoly position on certain routes (particularly those into certain remote, rural, exurban, suburban, and perhaps even lower-tier urban markets). As a fundamental portion of Covad's proposal, the FCC must address this market imbalance. The Commission should revisit whether optical-level circuits should be once again considered UNEs. To undertake this process, the Commission should revisit its decisions in the TRRO¹⁸ and optical-level forbearance proceedings.¹⁹

Over the past several years, a parade of regulatory rulings has, in effect, reduced competition and competitive access to facilities and services that are critical to support affordable and more widely available broadband access. Specifically, in the *Triennial Review Order*, the Commission determined, on a national basis, that incumbent LECs do not have to unbundle certain broadband elements, including optical level transport.²⁰ Further, in the *Section 271 Broadband Forbearance Order*, the Commission granted ILECs forbearance from the requirements of section 271 specifically for the broadband elements for which it had granted unbundling relief under section 251.²¹

¹⁸ See *Unbundled Access to Network Elements, Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order On Remand, 20 FCC Rcd 2533 (2005), *aff'd sub nom. Covad Comm'ns Co. v. FCC*, 450 F.3d 528 (D.C. Cir. 2006) ("TRRO").

¹⁹ See *AT&T Broadband Forbearance Order*.

²⁰ *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98, 98-147, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, ¶¶ 359-417, ("TRO") (subsequent history omitted).

²¹ *Petition for Forbearance of the Verizon Telephone Companies Pursuant to 47 U.S.C. § 160(c); SBC Communications Inc.'s Petition for Forbearance Under 47 U.S.C. § 160(c); Qwest Communications International Inc. Petition for Forbearance Under 47 U.S.C. § 160(c); BellSouth Telecommunications, Inc. Petition for Forbearance Under 47 U.S.C. § 160(c)*, WC Docket Nos. 01-338, 03-235, 03-260, 04-48, Memorandum Opinion and Order, 19 FCC Rcd 21496 (2004) ("*Section 271 Broadband Forbearance Order*"), *aff'd, EarthLink, Inc. v. FCC*, 462 F.3d 1 (D.C. Cir. 2006).

The relief granted in these orders will undermine the national policies created by Congress in the Recovery Act to ensure ubiquitous and affordable broadband access to all Americans. Removal of unbundling obligations for optical transport services, and the subsequent removal of those services from Section 271 obligations, has resulted in a national transport market that is monopolistic, expensive, and increasingly congested. The Commission's decision to remove optical transport from UNE and 271 requirements requires reexamination, especially in light of the dictates of the Recovery Act and the larger objective of making high-quality broadband available to as many Americans as possible in as affordable a manner as possible. The Recovery Act provides the Commission with extensive authority to re-examine national policy in light of the statutory directive to "ensure that all people of the United States have access to broadband capability." Among other things, the Recovery Act provides that the Commission must undertake an examination of "most effective and efficient mechanisms for ensuring broadband access by all people of the United States." This should include an examination of all barriers to the goal of ubiquitous and affordable broadband, including regulatory barriers that directly affect the ability of service providers to deploy, and customers to consume, broadband services.²²

However, in the TRO, the FCC found no impairment at the optical transport service level, and simply removed those facilities from UNE obligations. In light of the significant barriers to entry in this area,²³ this decision has eroded middle mile access and competition necessary to

²² See Recovery Act § 6001(k).

²³ See Center for Internet & Society, Harvard University, *Next Generation Connectivity: A review of broadband Internet transitions and policy from around the world*, at 118 (Oct. 2009) ("Berkman Study") ("Putting new infrastructure in place, particularly replacing current copper plant with fiber is expensive. Much of the expense is in relatively low-tech "civil engineering" work: digging trenches, locating ducts; getting into homes. The cost of the fiber itself, and of the electronics, is minuscule relative to the cost of the low-tech, high labor components.").

provide dedicated broadband services to end users that support next-generation applications. It has also almost certainly raised the costs to provide broadband capabilities to many Americans generally. The Commission should revisit this decision and provide competitive carriers unbundled access to optical transport.

Pricing reform will promote competitive provision of broadband access services to end users, and thus promote affordability for such end users. Unbundling of the optical transport layer, and other regulatory open access reforms, will reduce the entry barriers in telecommunications markets that deter and/or substantially increase the costs of competitive entry. The recently released Berkman Study, for example, found that “unbundling had a positive and significant effect on levels of penetration; that this effect was somewhat larger, more statistically significant, and more robust than previously thought....”²⁴

Under Section 271, Regional Bell Operating Companies (“RBOCs”) were required to unbundle their networks as a condition for competing in the long-distance telecommunications service market. As the RBOCs continue to provide long distance services under that authority, Section 271 provides an independent basis under which RBOCs are required to provide access to network elements, including optical transport, even if they are no longer required to make those UNEs available under Section 251 of the Act.²⁵

Given the clear lack of competition in this area, the increasing needs of broadband users, and the significant costs that monopoly providers charge, the inefficiencies and other barriers to entry through self-provision of these services, the Commission should subject these services to the unbundling obligations of the Act until real competition in this area is established. Further,

²⁴ See Berkman Study, at 115.

²⁵ Although Section 271 may not necessarily contain the same pricing requirements mandated under the Section 251 unbundling rules, the Commission has authority under Section 271 to establish reasonable cost-based rates for network elements that are de-listed under Section 251.

in light of Congress' pronouncements in the Recovery Act, the FCC should do what is necessary at the regulatory level to ensure that middle mile transport policy does not directly interfere with the dictates of those statutory purposes, which includes re-examination of its decisions remove optical level transport from Section 251 and 271 obligations.

B. Access to Fiber and Hybrid Copper/Fiber Facilities

Notice Question 4.a.: Is the provision of a high-capacity fiber optic middle mile or second mile connection to a particular location a natural monopoly in some locations?

As a threshold matter, Covad notes that the "second mile" is a component of the "last mile" local loop between the central office and the retail customer. The Commission's *Notice* is correct to highlight the importance of the second mile -- *as part of* the true "last mile" -- to achieving the objectives of the National Broadband Plan. Indeed, the "second mile" is clearly part of a bottleneck facility in the local loop that warrants consideration under the National Broadband Plan; in particular, the more reasonable rates, terms, and conditions for access that apply to those loop facilities, the greater the likelihood that consumers will reap the benefit of lower access costs.

More and more, ILEC loop networks are constructed using both copper wire and fiber optic cable. In this configuration, a fiber loop feeder travels from the central office to a remote terminal ("RT") in the field, where digital loop carrier ("DLC") electronics convert the optical signal into an electronic one traveling over a copper loop (known as "distribution") to the customer's premises. Fiber is being replaced in the phone network to meet the expected need for additional bandwidth for last-mile (including second mile) delivery. The ILECs have expressed their intent to increasingly deploy fiber throughout their network architectures. This paints a compelling picture of the extent to which competitors' ability to serve a substantial segment of the customer market is at risk.

It is generally not cost effective to collocate at the RT, so Covad and other carriers need dedicated, committed bit stream access through the DLC at the RT and over the unbundled fiber terminating in the central office where Covad is collocated. Assuming it were even technically feasible in the first instance, it is simply too expensive for Covad and other carriers to be forced to collocate at the RT, rather than at the central office. There are considerable inefficiencies associated with placing stand-alone equipment in a RT, rather than unbundling fiber loops at the central office, such as the capital and collocation costs of placing equipment in the RT (assuming space is available) and any of the recurring costs to collocate in the RTs. There are multiple RTs in a wire center, so CLECs would have to deploy multiple pieces of equipment to reach the same number of customers as a single piece of equipment in the central office. To Covad's knowledge, no CLEC has been able to successfully introduce a profitable product using the business model of collocating at the RT. Central Office collocation, on the other hand, which Covad has already invested in, increases the base of customers that competitors will ultimately have access to, reduces costs, and thereby increases broadband competition and availability, and decreases retail prices. The Commission should ensure that facilities-based broadband providers, such as Covad, that have already invested in collocations in ILEC central offices not only have access to the unbundled fiber loop, but also to the control parameters necessary to differentiate the variety of their offerings.

Covad requests that the Commission develop policies that will provide competitors access to fiber loops that meets the demands of next-generation broadband applications, such as high definition video-conferencing, telemedicine, and distance learning. CLECs and other carriers should be allowed to use those facilities to provide broadband services with QOS for guaranteed bandwidth, which the next-generation applications require. There are two ways that

carriers can provide guaranteed bandwidth to retail consumers: 1) by obtaining competitive access last mile (including “second” mile) facilities in the form of dark fiber, where available, whereby the carrier can utilize those facilities in a manner to ensure that its customers receive guaranteed bandwidth, and 2) by obtaining *committed* bit rate circuits from the ILECs (*i.e.*, with a guaranteed bandwidth commitment) on lit fiber sufficient to support applications that require guaranteed bandwidth. Simply put, competitive access to fiber is a necessity to ensure that U.S. consumers have access to affordable and next-generation broadband access services. Indeed, as the Berkman Study highlights, supporting competition is the Commission’s best bet to promote nationwide broadband deployment.²⁶

Covad’s request for access to fiber and hybrid fiber/copper facilities is supported by the controlling statutes. Section 706 of the 1996 Act directs the Commission to “encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans...by utilizing, in a manner consistent with the public interest, convenience, and necessity...measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.”²⁷ The unbundling provisions of the 1996 Act likewise obligate ILECs to provide “nondiscriminatory access to network elements on an unbundled basis,”²⁸ which applies equally to facilities made of copper, fiber, or a hybrid of copper and fiber. The Commission can foster innovation and competition over these networks by establishing wholesale open access requirements. Further, for next-generation

²⁶ “[O]pen access’ policies—unbundling, bitstream access, collocation requirements, wholesaling, and/or functional separation—are almost universally understood as having played a core role in the first generation transition to broadband in most of the high performing countries; that they now play a core role in planning for the next generation transition; and ... the positive impact of such policies is strongly supported by the evidence of the first generation broadband transition. Berkman Study, at 11.

²⁷ Pub. L. 104–104, title VII, § 706, Feb. 8, 1996, 110 Stat. 153, as amended by Pub. L. 107–110, title X, § 1076(gg), Jan. 8, 2002, 115 Stat. 2093.

²⁸ 47 U.S.C. § 251(c)(3).

networks, such as FTTP or hybrid copper-fiber networks, wholesale open access can be priced using an actual cost, rate of return, methodology.²⁹ Using this methodology, the ILECs will receive a full return on their investment, with a reasonable profit, as long as the network is deployed on a reasonable basis.³⁰ Access to the last mile will always be necessary for vibrant competition. Given the technical and economic impossibility of duplicating the last mile, the unbundling provisions of the 1996 Act provide a logical means of ensuring competitive access to all homes and businesses in the country. That logic applies equally to facilities made of copper, fiber, or a mix of copper and fiber.³¹

C. UNEs for Mobile Backhaul

Notice Questions 4.b & 5.a.: Do wireless broadband service providers self-provide middle mile and/or second mile transport? ... Does the nature of competition vary between areas in which high-speed transport network facilities are already in place ...? To what extent does a lack of competitive alternatives over some circuits that a particular customer demands affect or limit the ability of that purchaser to acquire or self-provide particular circuits for which alternatives may be available?

Finally, Covad respectfully requests that the Commission revisit its decision to preclude the use of UNEs for transport of wireless traffic. As the Commission has recognized, wireless broadband services offer tremendous opportunity for rural and other traditionally underserved

²⁹ This methodology is only appropriate for FTTP or hybrid copper-fiber networks, since those networks are new. TELRIC continues to be appropriate for the legacy copper network and supporting infrastructure, since that network has been largely depreciated.

³⁰ The Commission and state commissions would still be able to disallow costs that were unreasonably incurred. The next-generation networks would be held to rate of return pricing standards that are similar to the standards currently applied for many electric utilities and to the remaining rate of return telecommunications utilities.

³¹ As an operational matter, market participants will need access to prequalification records that accurately reflect the medium of the last mile facilities. The prequalification databases will need to indicate whether a customer is served by copper, hybrid copper-fiber, fiber, or a combination of these mediums. The ILECs current databases do not adequately differentiate the different loop types.

areas.³² However, these facilities have been, and will continue to be, subjected to increased costs to transport to the Internet backbone, which will be passed onto consumers and hinder the ability of smaller (*i.e.*, non-ILEC affiliated) wireless providers to offer wireless broadband services.³³ For example, CTIA statistics show there were fewer than 75,000 cellular sites as of 1999.³⁴ That this number has mushroomed to over 245,000 in the following decade.³⁵ Approximately, 225,000 sites will provide 3G/4G wireless services by 2012.³⁶ The issues are particularly acute in less urban areas where wireless deployment may be just underway or not yet started.

If there is no transport competition, wireless competition will suffer. To best support the deployment of wireless transmission facilities and the elements to support those facilities, the FCC should revisit its decision in the TRRO, and provide carriers access to UNEs for mobile backhaul. With this access, CLECs and other carriers would be able to provide pricing pressure on the currently inflated special access market for mobile backhaul. CLECs and other carriers would also be able to introduce innovative new technologies, such as Ethernet over copper, to

³² See *Wireless & On the Go*, Report by the Wireless Broadband Access Task Force, Federal Communications Commission, at 2 (Feb. 2005), available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-257247A1.pdf (“In addition, wireless broadband plays a critical role in ensuring that broadband reaches rural and underserved areas, where it often is the most efficient means of delivering these services.”). See also *Bringing Broadband to Rural America: Report on a Rural Broadband Strategy*, Acting Chairman Michael Copps, Federal Communications Commission, ¶ 10 (May 22, 2009), available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-291012A1.pdf (“[In rural areas] [w]e expect to see further advancements on the wireless broadband front as wireless service providers begin to build out networks using advanced technologies—such as Long Term Evolution (LTE) or Worldwide Interoperability for Microwave Access (WiMAX)—that support data rates that may exceed 100 Mbps.”).

³³ See Letter From Warren G. Lavey, Counsel of United States Cellular Corporation, to Marlene H. Dortch, Secretary, FCC, Docket No. 09-51 et al., at Presentation, p. 12 (Oct. 19, 2009) (noting that special access is non-competitive, that “‘Middle mile’ and ‘second mile’ lack competitive alternatives in most areas,” and that special access is a “[s]ignificant cost driver for regional wireless carriers.”).

³⁴ See CTIA’s Semi-Annual Wireless Industry Survey, *Mid-Year 2009 Top Line Survey Results*, at 9 (2009), available at: http://files.ctia.org/pdf/CTIA_Survey_Midyear_2009_Graphics.pdf (providing an overview of CTIA’s mid-year survey results).

³⁵ See *id.*

³⁶ See Heavy Reading, “Ethernet Backhaul Quarterly Market Tracker,” November 2008.

satisfy the growing mobile backhaul market. The Commission should reform its policies to promote middle mile and backhaul access by, among other things, providing carriers the ability to purchase UNEs for mobile backhaul services.

IV. Conclusion

The Commission should undertake policies to ensure that Americans and American small businesses are able to receive broadband access services that will support transformative, next-generation applications. While much work needs to be done to achieve a nationwide next-generation broadband deployment, the Commission can take a number of steps to accelerate the transition to that goal (and to ensure that parties take no actions detrimental to that goal). Such actions include encouraging access and competition wherever possible and establishing rational pricing policies. U.S. customers will benefit from innovative products provided by a robust set of companies over the built-out 21st century network. Small businesses will benefit from higher speed and lower cost business-class broadband services. In turn, this will support the U.S. competitive position in the global economy.

Respectfully submitted,

/s/ Anthony Hansel
Anthony Hansel
Assistant General Counsel
Covad Communications Company
1750 K Street, NW
Suite 200
Washington, DC 20006
(202) 220-0410 (tel)
(202) 833-2026 (fax)
ahansel@covad.com

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