

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

<u>In the Matter of</u>)	
)	
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers)	CC Docket 01-338
)	
Implementation of the Local Competition Provisions of the Telecommunications Act of 1996)	CC Docket 96-98
)	
Deployment of Wireline Services Offering <u>Advanced Telecommunications Capability</u>)	CC Docket 98-147

REPLY COMMENTS OF GENERAL COMMUNICATION, INC.

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TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	ii
I. THE RECORD CONTAINS ABSOLUTELY NO EVIDENCE THAT CLECS ARE OPTING TO PURCHASE UNES IN LIEU OF INVESTING IN THEIR OWN FACILITIES.....	2
II. THERE IS NO EVIDENCE THAT ILECS OR CLECS ARE FOREGOING INVESTMENT IN ADVANCED SERVICES	7
III. GCI WOULD BE IMPAIRED WITHOUT ACCESS TO UNBUNDLED LOCAL SWITCHING AND TRANSPORT	10
A. Certain ILEC Network Architectures Require the CLEC to Have Access to Unbundled Switching and Transport to Access the Loop.....	11
B. Reliable Provisioning Remains an Obstacle to UNE-L, and Should Be Remedied by Leaving UNE-P Available	14
IV. GCI WOULD BE IMPAIRED WITHOUT ACCESS TO CONDITIONED LOOPS.....	17
A. ILECs Fail to Distinguish Between Distinct Product and Geographic Markets in Which GCI Seeks to Offer Service.....	19
B. The Relevant Input Market Is High Capacity Last Mile Transmission to the Customer the CLEC Seeks to Serve	23
C. The Record Confirms that CLECs Lack Alternatives to Conditioned Loops When Serving Business Customers	24
1. Self-Provisioning of Conditioned Loops Is Not Feasible.....	24
2. Cable Modem Service Does Not Serve Many Business Areas and Does Not Satisfy the Requirements of All Business Customers	26
3. Wireless and Satellite Services Do Not Satisfy the Requirements of Business Customers.....	29
CONCLUSION.....	32

SUMMARY

The record in this proceeding confirms that CLECs are investing in facilities whenever possible, and that the availability of unbundled elements promotes this investment, not deters it. The greatest deterrents to CLEC investment are ILEC network design and failures in the ILEC provisioning process. There are high barriers to switch deployment, for example, resulting from the use of DLC loops and the fact that loops are hardwired to ILEC switches. In light of these barriers, eliminating unbundled switching would not promote more facilities-based entry. Rather, it would prompt CLECs to exit the market altogether. Rather than trying to concoct mechanisms to push CLECs to engage in inefficient facilities-based investments in a capital-starved market, the Commission should focus on getting ILECs to meet their already existing obligations to provision unbundled loops and other network elements in a manner that delivers true competitive parity for CLECs.

The record also shows that both ILECs and CLECs continue to invest in advanced services. While the ILECs present ample rhetoric indicating that their statutory obligations hinder their investment in advanced services, they present no evidence to show how their investment strategies would change absent unbundling. Theory aside, the actual evidence shows that ILECs have invested billions in advanced services despite unbundling. On these same facts, the Supreme Court of the United States concluded that ILECs continue to have sufficient incentives to invest, and so should the Commission.

With respect to intermodal competition, the evidence indicates that intermodal competition does not obviate the need for unbundling. While the ILECs do present "facts" in their Broadband and UNE Fact Reports, they do not conduct any analysis of product and geographic markets to show that intermodal competition has at all weakened their bottleneck

chokehold on competitors who must use conditioned loops to reach business customers not accessible through other facilities. A proper market analysis must examine each of the following questions, which are drawn from the standard competitive analysis used by the Commission and the Department of Justice adapted for Section 251(d)(2)(B)'s express focus on the services the requesting carrier is seeking to offer:

- What is the relevant product market in which the requesting carrier is seeking to offer services?
- What is the relevant geographic market in which the requesting carrier is seeking to offer its services?
- What is the relevant input product market?
- What is the relevant input geographic market?
- Other than the ILEC's unbundled network element, what are the other actual and potential sources of supply of the functions provided by that ILEC network element, in the relevant input market, that will permit the requesting carrier to offer its services in the relevant output market?
- What are the barriers to use of the other actual and potential sources of supply of the functions provided by that ILEC network element, and how quickly can those barriers be overcome?

When these questions are applied to the evidence in the record, it is clear that intermodal competition has not eliminated the need for unbundling, and that GCI would be impaired in the provision of services to small and medium sized businesses without access to unbundled conditioned loops.

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REPLY COMMENTS OF GENERAL COMMUNICATION, INC.

The extensive record in this proceeding overwhelmingly confirms that the experience of General Communication, Inc. (GCI) in Alaska is true nationwide: there is simply no evidence that CLECs are failing to invest in their own facilities whenever possible in order to bring new, innovative products to consumers. Instead, the record shows time and time again that the greatest impediments to CLEC facilities-based investment are ILEC network design and failure to provision unbundled loops on anything approaching a parity basis. Rather than trying to concoct mechanisms to push CLECs to engage in inefficient facilities-based investments in a capital-starved market, the Commission should focus on getting ILECs to meet their already existing obligations to provision unbundled loops and other network elements in a manner that delivers true competitive parity for CLECs.

With respect to intermodal competition, the record shows that the ILECs retain substantial market power in the provision of services to businesses over conditioned loops, especially in the small to medium sized business markets. The ILECs have not conducted a proper analysis of product and geographic markets to show that intermodal competition has at all weakened their bottleneck chokehold on competitors who must use conditioned loops to reach business customers not accessible through other facilities. Without unbundling of conditioned loops, GCI would be impaired in providing telecommunications services to, among others, business customers that cannot be reached over GCI's fiber loop or its cable facilities.

I. THE RECORD CONTAINS ABSOLUTELY NO EVIDENCE THAT CLECS ARE OPTING TO PURCHASE UNES IN LIEU OF INVESTING IN THEIR OWN FACILITIES

GCI observed in its comments that CLECs have substantial incentives to invest in facilities to replace ILEC unbundled network elements.¹ The comments in the record support GCI's position, and the ILEC comments fail entirely to offer any concrete evidence to the contrary. The myth that CLECs are choosing merely to buy unbundled network elements when they could be making investments in their own facilities remains a myth, wholly unsupported by facts.

Indeed, what is clear from the comments is that CLECs are making facilities-based investments whenever they can – *i.e.*, where entry barriers are low enough compared to the scale of the market the CLEC is seeking to enter. GCI has built its business by doing so, making substantial facilities investments to provide local service in

¹ Comments of General Communication Inc., CC Docket Nos. 01-338, 96-98, and 98-147 at 33-37 (filed Apr. 5, 2002) (“*GCI Triennial Comments*”).

Alaska.² Wherever possible, GCI has installed its own switches and transport facilities – despite the local ILEC's attempts to frustrate facilities-based entry by designing impediments to loop unbundling into its local network.³ AT&T describes in detail its various investments in facilities (over \$11 billion to deploy switch-based local service), and its ultimate migration to a two-step entry process that uses UNE-P initially to overcome barriers created by ILEC provisioning bottlenecks, and then conversion of UNE-P to UNE-L arrangements when possible.⁴ Another major CLEC, WorldCom, provides evidence that it has invested billions in local network facilities.⁵ The members of the Fiber/Switch-Based CLEC Coalition also have "invested enormous amounts in facilities," including extensive fiber ring deployments, point-to-point intra-city networks, fiber overlays, digital circuit switches, and packet switches.⁶ According to the Coalition, "TDS Metrocom has invested more than \$250 million and NuVox has invested roughly \$350 million in facilities."⁷

That CLECs have invested substantial sums in facilities and continue to do so does not mean they can completely duplicate the ILECs' ubiquitous networks: the barriers to entry and expansion are simply too high to allow that result. Z-Tel's

² See Attachment to *GCI Triennial Comments*, Declaration of Frederick W. Hitz, III ("*Hitz Declaration*").

³ See *id.* at 2, ¶ 4.

⁴ See Comments of AT&T Corp., CC Docket Nos. 01-338, 96-98, and 98-147 at 49-50, 52-61, 207-208 (filed Apr. 5, 2002) ("*AT&T Triennial Comments*").

⁵ Comments of WorldCom, Inc., CC Docket Nos. 01-338, 96-98, and 98-147 at 11-12 (filed Apr. 4, 2002) ("*WorldCom Triennial Comments*") (citing Declaration of Peter H. Reynolds, submitted under separate cover).

⁶ Initial Comments of NuVox, Inc. *et al.*, CC Docket Nos. 01-338, 96-98, and 98-147 at 2 (filed Apr. 5, 2002) ("*CLEC Coalition Triennial Comments*").

⁷ *Id.* at 2 n.3.

comments illustrate the importance of barriers to entry and expansion to any evaluation of CLEC investment incentives. Z-Tel cites its experience in New York City, where it had the opportunity to purchase a highly discounted switch that was already installed and connected to collocation facilities in a number of ILEC central offices.⁸ On its face, Z-Tel found the opportunity to own facilities attractive.⁹ Yet Z-Tel found that when the costs of connecting ILEC loops to Z-Tel's collocation facilities ("hot cuts") were considered along with the ILEC's inability to provision hot cuts in any significant volume, the investment in switches would never pay for itself.¹⁰ This investment was frustrated not by a lack of will on the part of Z-Tel, but structural barriers to entry in the marketplace resulting from ILEC network design decisions and loop provisioning capabilities. Other commenters confirm that the ILECs' inability to provision hot cuts presents a substantial barrier to switch deployment.¹¹ AT&T, for example, states that it and "its customers experienced so many difficulties with service implementation when using the coordinated hot cut process to connect loops to its switches that AT&T was

⁸ Comments of Z-Tel Communications, Inc., CC Docket Nos. 01-338, 96-98, and 98-147 at 34 (filed Apr. 5, 2002) ("*Z-Tel Triennial Comments*").

⁹ *Id.*

¹⁰ *Id.* Z-Tel concluded that when the cost of hot cuts was factored in, even if a switch in New York City was free, it would never be profitable to deploy one.

¹¹ The New York Department of Public Service notes that if all of Verizon's UNE-P orders were to become UNE-L orders, "Verizon's hot-cut performance [would] have to improve approximately 4400 percent." Comments of New York Department of Public Service, CC Docket Nos. 01-338, 96-98, and 98-147 at 4 (filed Apr. 5, 2002) ("*NYDPS Triennial Comments*"). *See also* Comments of Pennsylvania Office of Consumer Advocate *et al.*, CC Docket Nos. 01-338, 96-98, and 98-147 at 13 (filed Apr. 5, 2002) ("Some ILECs are unable to 'hot cut' transfer a substantial amount of customers in an expeditious manner," which adversely affects switch investment).

forced to cease marketing its switch-based service to all business customer locations that did not have enough traffic to support the use of a DS-1 or higher capacity loop."¹²

In over 1,000 pages of submissions, the ILECs fail to present even a single example of a CLEC that had switching facilities in place (or had the opportunity to put facilities in place), but did not engage in facilities-based competition because "cheap" UNEs were available. The ILEC's reason that the mere presence of switches in a market demonstrates that CLECs could use their own switches to serve all segments of the market, and thus the failure of CLECs to use their own switches must be evidence of a willful avoidance of opportunities to make facilities investment.¹³ This assumes that there are no significant impediments to the use of switches to provide mass-market local service. This assumption, made without demonstration and contrary to substantial evidence, is wrong.

The record supports GCI's observation that there are substantial "hidden costs" in relying on the ILEC for crucial inputs.¹⁴ Among these hidden costs are continual regulatory uncertainty as to whether regulators will allow ILECs to stop supplying critical inputs; continual regulatory litigation over the price, terms and conditions under which

¹² *AT&T Triennial Comments* at 207.

¹³ *See, e.g.,* Comments and Contingent Petition for Forebearance of the Verizon Telephone Companies, CC Docket Nos. 01-338, 96-98, and 98-147 at 31 (filed Apr. 5, 2002) ("*Verizon Triennial Comments*") (claiming that CLEC use of ILEC switching indicates CLECs "perceive entry over the incumbent's facilities" as preferable to facilities-based entry).

¹⁴ *See GCI Triennial Comments* at 33. *See also* Comments of Moline Dispatch Publishing Co., L.L.C. *et al.*, CC Docket Nos. 01-338, 96-98, and 98-147 at 6 (filed Apr. 5, 2002) ("CLECs . . . would prefer to use their own facilities when it makes economic sense to do so in order to free themselves from the burdens of lengthy interconnection agreements, avoid delays in provisioning and deploying their services, and control recurring costs.").

critical inputs are supplied; reliance on a competitor for timely (or untimely) provisioning and repair of those inputs; extra charges (*e.g.*, duplicate and unnecessary channel termination charges); lack of control over service quality; and other intangibles.¹⁵ “So long as th[e] inherent wholesale-supplier/retail-competitor conflict exists between an ILEC and a CLEC, then the ILECs’ ability to manipulate prices for elements and to control quality leaves sufficient room for ILECs to sabotage transactions, defined as the ability to increase the cost of a rival’s key input of production by nonprice behavior between itself and CLECs.”¹⁶ As an example of hidden costs relating to service quality and repair, Eschelon notes three separate incidents during a six-week period when DS3 high capacity facilities it leased from Qwest failed and then remained offline for approximately 3 to 6 hours.¹⁷ Qwest, however, typically restores the facilities it uses for its own customers in far less time.¹⁸

The United States Supreme Court recently recognized that the hidden costs of using UNEs provide CLECs with sufficient incentive to invest. In *Verizon Communications, Inc. v. Federal Communications Commission*, the Court rejected the ILECs’ argument that making UNEs available at TELRIC prices would suppress

¹⁵ See *GCI Triennial Comments* at 33-34. See also Comments of Eschelon Telecom, Inc., CC Docket Nos. 01-338, 96-98, and 98-147 at 10-11 (filed Apr. 5, 2002) (“*Eschelon Triennial Comments*”) (noting self-provisioning allows CLEC to design network to meet its own standards, to establish and maintain its own installation schedules, to quickly and reliably repair outages, and set specific service guarantees).

¹⁶ T. Randolph Beard, George S. Ford, and Lawrence J. Spiwak, *Why ADCo? Why Now? An Economic Exploration into the Future of Industry Structure for the "Last Mile" in Local Telecommunications Markets*, 54 FED COMM. L.J. 421, 424-25 (2002).

¹⁷ *Eschelon Triennial Comments* at 11 n.15.

¹⁸ *Id.*

facilities investment because that argument assumed “a perfectly efficient market.”¹⁹ The Court found that, “theory aside,” the ILEC’s assumption of a perfectly efficient market was “contrary to fact.”²⁰ The evidence showed that, since passage of the 1996 Act, CLECs had invested \$55 billion.²¹ Although the Court could not ascertain whether a different UNE pricing scheme would have generated even more CLEC investment, it found that this “substantial competitive capital spending” proved the Commission’s unbundling rules were a reasonable way to promote investment in facilities.²² Because the Supreme Court’s pronouncement is as equally applicable to unbundling as to TELRIC, the Commission should soundly reject the ILECs’ unsound incentive argument and focus on the relevant statutory issue—whether CLECs would be impaired in providing the services they seek to offer without access to unbundled network elements.

II. THERE IS NO EVIDENCE THAT ILECS OR CLECS ARE FOREGOING INVESTMENT IN ADVANCED SERVICES

ILECs have also argued that unbundling of loops that are capable of being used to offer advanced services – such as conditioned loops – stymies both their investment in facilities and the incentives for CLECs to invest in such facilities. They fail, however, to provide the proof to back up these claims, while the remaining commenters provide substantial evidence refuting it.

As GCI pointed out in its initial comments, ACS, the largest incumbent LEC in Alaska, has announced a substantial capital investment program over the next five years

¹⁹ *Verizon Communications, Inc. v. FCC*, 535 U.S. ___, 122 S. Ct. 1646, 1652, 152 L.Ed.2d 701 (2002).

²⁰ *Id.*

²¹ *Id.*, 122 S. Ct. at 1675.

²² *Id.*, 122 S. Ct. at 1652.

and has expressly told the Regulatory Commission of Alaska that its investment plans were not contingent upon repeal of unbundling requirements.²³ Other commenters have pointed out similar investments by other ILECs. Dynegy noted that Verizon, in its Form 10K submission to the SEC for 2001, stated it made investments of approximately \$11.5 billion in 2001, \$12.1 billion in 2000, and \$10.1 billion in 1999 "to meet the demand for communications services and to further improve such services."²⁴ According to the Association for Local Telecommunications Services (ALTS), in June 2001, "Verizon informed the New York Public Service Commission that the 'unprecedented and unpredictable demand' for high-speed data circuits required increased capital spending and the deployment of new technologies."²⁵ ALTS provided similar evidence regarding high levels of investment by SBC and BellSouth.²⁶ Allegiance provides evidence that "Duane Ackerman, CEO of BellSouth, recently identified deployment of xDSL as a 'top priority' for the company," and that "[a] significant portion of the \$5.5 to \$6.0 billion BellSouth allocated to capital expenditures was allocated to xDSL deployment in 2001."²⁷ Allegiance also notes that 11 percent of Qwest's total capital investment in 2001 was for local broadband and 15 percent was for data.²⁸

²³ *GCI Triennial Comments* at 33.

²⁴ Comments of Dynegy Global Communications, Inc., CC Docket Nos. 01-338, 96-98, and 98-147 at 5 n.5 (filed Apr. 5, 2002).

²⁵ Comments of Assoc. for Local Tele. Services *et al.*, CC Docket Nos. 01-338, 96-98, and 98-147 at 9 (filed Apr. 5, 2002).

²⁶ *See id.* at 9-10.

²⁷ Comments of Allegiance Telecom, Inc., CC Docket Nos. 01-338, 96-98, and 98-147 at 16 (filed Apr. 5, 2002).

²⁸ *Id.*

Despite clear evidence that they have and continue to invest in advanced services facilities, the ILECs present nothing other than rhetoric to show how their investment strategies would change if they were not subject to unbundling.²⁹ While the ILECs are good at making armchair economist arguments about competitive theory, they have never put “theory aside”³⁰ and provided any concrete financial evidence indicating how much more they could or would invest in advanced services absent unbundling. As GCI outlined in the Broadband Internet Access Framework proceeding, the most likely reason the ILECs have failed to present any evidence on this issue is that, given the economics of facilities investment, the facts would show that the rate of investment would increase very little, if at all.³¹

Indeed, the Supreme Court rejected the ILECs’ argument that unbundling at TELRIC rates “stifles” their “incentive . . . either to innovate or to invest’ in new elements.”³² The Court itself recognized that incumbents have invested “over \$100 billion” in facilities since passage of the Act. As the Court concluded, that figure “affirms the commonsense conclusion that so long as TELRIC brings about some competition, the incumbents will continue to have incentives to invest and to improve their services to hold on to their existing customer base.”³³ While the Court’s decision

²⁹ See *United States Telecom Ass’n v. FCC*, Case No. 00-1012 (D.C. Cir., May 24, 2002), slip op. at 11 (“The question is how investment compares with what would have occurred in the absence of [unbundling].”).

³⁰ *Verizon*, 122 S. Ct. at 1675.

³¹ See Comments of GCI Communication, Inc., CC Docket No. 02-33, 95-20, and 98-10 at 3 (filed July 1, 2001) (“*GCI Broadband Framework Comments*”). The ILECs, who do not present any evidence on this issue, have possession of the underlying information necessary to conduct a thorough analysis.

³² *Verizon*, 122 S. Ct. at 1676.

³³ *Id.*

addressed TELRIC pricing, and not unbundling *per se*, it is self-evident that if unbundling at TELRIC prices does not stifle ILEC investment, unbundling does not stifle investment.

There is also no evidence in the record that CLECs and other competitors are failing to deploy their own broadband facilities in reliance on ILEC facilities. CLECs have invested heavily in advanced services facilities even where UNEs are available at true TELRIC prices (and little where they are not).³⁴ GCI is an example of a CLEC that has not relied on the availability of UNEs in formulating its residential broadband plans. It has invested over \$70 million to bring broadband Internet access service to Alaskans over cable facilities and a combination of satellite and unlicensed wireless in remote areas. Although these investments are substantial, they by no means make GCI's networks ubiquitous, and, as explained further below, GCI still requires access to ILEC conditioned loops to serve business customers that it cannot serve on cable modem facilities.

III. GCI WOULD BE IMPAIRED WITHOUT ACCESS TO UNBUNDLED LOCAL SWITCHING AND TRANSPORT

In its opening comments, GCI demonstrated that even though it generally provides its services utilizing GCI's own transport network and switches with ILEC unbundled loops forming a portion of its loop facilities, it would nonetheless be impaired without access to unbundled local switching and transport. There are two reasons why GCI would be thus impaired. First, ILECs have deployed network architectures that make it technically and economically impracticable to access some of the ILEC's

³⁴ See, e.g., *Eschelon Triennial Comments* at 16 ("[T]here is a positive association between the availability of UNEs and broadband.").

unbundled loops. Second, ILEC provisioning delays for unbundled loops make the availability of unbundled switching and transport – the UNE-P – a needed backstop. Until ILECs actually offer provisioning parity, CLECs like GCI will need to have some adequate means of initiating and offering their own service (rather than the ILEC’s resold services) using ILEC switching and transport.

A. Certain ILEC Network Architectures Require the CLEC to Have Access to Unbundled Switching and Transport To Access the Loop

GCI’s initial comments described the problems it has faced in gaining access to the unbundled loop in Alaska. In some areas, the incumbent LEC has installed network architectures, such as converting an end office switch to a remote or adding digital loop carriers that preclude access to the unbundled loop as a technical or economic matter.³⁵ The evidence in the record reveals that GCI’s experience in Alaska is neither new nor unusual.³⁶ “Over the past several years, the ILECs have pushed fiber feeder and more sophisticated loop electronic equipment further toward the customer’s doorstep.”³⁷ AT&T notes that while this “logical extension of network architecture capabilities that were available long before passage of the 1996 Act” has increased transmission capacity of local loop facilities, “the particular network architecture [the ILECs] are implementing makes it increasingly difficult for CLECs to obtain access to customers’ individual

³⁵ *GCI Triennial Comments* at 49-50.

³⁶ *See AT&T Triennial Comments* at 163 (noting that issue of CLECs’ right to access “unified” loops as UNE has been before Commission for at least two years and has been extensively briefed twice).

³⁷ *Id.* at 166.

loops.”³⁸ If this situation is allowed to continue, it will ultimately prevent CLECs from using the local loop at all.³⁹

Because traffic transmitted over the DLC loop is multiplexed before it reaches the central office, GCI “cannot obtain access to its own customers’ signals until the ILEC performs the complementary demultiplexing function at the central office end of the loop.”⁴⁰ Without access to demultiplexing, “[t]here is no way for *any* carrier, including the ILEC, to segregate its own customers’ traffic from the fiber feeder.”⁴¹ Access to the unified loop is therefore more than just “a dependable method of obtaining access to the incumbent’s loops,”⁴² it is, as a technical matter, the only method.

ILECs justify “hiding” the local loop through DLC deployment by arguing that “CLECs are equally capable of deploying fiber in the loop . . . and ILECs have no unique economies of scale or scope in the deployment of fiber.”⁴³ This justification is both irrelevant and inaccurate. It is irrelevant because, as the Supreme Court recently emphasized, Congress did not intend that CLECs be required to replicate all ILEC actions

³⁸ *AT&T Triennial Comments* at 167.

³⁹ *See NYDPS Triennial Comments* at 6-7 (“Our concern has been that while today roughly 20% of New York’s customers are served using [DLC] technology, this proportion is likely to increase, perhaps sharply. Without unbundling requirements that realistically allow CLECs or potential competitors reasonable access to remote terminals, customers will have no choice of wireline broadband providers, their choice of voice providers may be curtailed, and they may not be able to enjoy the benefits of wireline broadband at all, should Verizon choose not to provide that service.”).

⁴⁰ *AT&T Triennial Comments* at 187.

⁴¹ *Id.* at 189 (emphasis in original).

⁴² Notice of Proposed Rulemaking, *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, FCC 01-361, 16 FCC Rcd. 22781, ¶ 59 (2001).

⁴³ *Verizon Triennial Comments* at 90.

in order to enter the market. Rather, “[t]he Act . . . proceeds on the understanding that incumbent monopolists and contending competitors are unequal,” and it should therefore be read whenever possible to “remove practical barriers to competitive entry.”⁴⁴ It is inaccurate because ILECs and CLECs are not equally capable of deploying fiber feeder to the DLCs.⁴⁵ DLC feeder is an upgrade that leverages the economies of scope and scale of the ILECs’ existing network by utilizing already deployed central office locations and copper wire distribution facilities to an existing customer base.⁴⁶ ILECs would have the Commission require CLECs to install feeder fiber before obtaining customers – exactly the opposite of the ILEC fiber deployment, which is installed to serve an existing customer base. Deploying fiber before there are sufficient customers at the node to justify the investment creates a barrier to entry to serve the areas off that node.

As the record confirms, it is precisely for this reason that it is uneconomic for CLECs to separately provision fiber to interconnect at remote terminals. “As fiber is pushed deeper into the network, the copper loops become shorter [and] each remote terminal serves fewer customers,”⁴⁷ but “the infrastructure costs must be borne regardless

⁴⁴ *Verizon*, 122 S. Ct. at 1652.

⁴⁵ *See, e.g., NYDPS Triennial Comments* at 7 (finding it impracticable and not commercially feasible for CLECs to collocate facilities next to Verizon's remote terminals).

⁴⁶ As the *NRC Broadband Report* noted, an unbundling assessment should “take into account the extent to which an incumbent’s control over the existing plant can be leveraged to gain an anticompetitive advantage in offering broadband over new facilities.” Committee on Broadband Last Mile Technology, National Research Council, *Broadband: Bringing Home the Bits*, 29 (2001) (“*NRC Broadband Report*”). That is exactly what the ILECs are doing with DLC loops—leveraging existing monopoly plant and customers to deny competitors access to last mile facilities.

⁴⁷ *Id.* at 151.

of how many customers in a given area actually subscribe to a service.”⁴⁸ Thus, the record demonstrates that while the cost of installing fiber to remote terminals is significantly higher than collocation at the central office, “the universe of potential customers from which those collocation costs can be recovered is significantly smaller than the number of customers served from a central office.”⁴⁹ This means that “for a DLC to be practical and economic, it must be nearly fully utilized,”⁵⁰ an economy of scale achievable by ILECs – which make their deployment decisions based on where they already have sufficient customers – but not by CLECs, who have no say in the ILEC’s decision to deploy a DLC architecture.⁵¹

B. Reliable Provisioning Remains an Obstacle to UNE-L, and Should Be Remedied by Leaving UNE-P Available

Although GCI has been successful in building market share using a UNE-L offering, it has achieved that success in spite of substantial operational difficulties caused by woefully deficient ILEC provisioning of loops. And as the record demonstrates, it is highly unlikely that ILEC provisioning will be fixed anytime soon. Until ILEC provisioning is at true parity, CLECs such as GCI will be impaired without an alternative like UNE-P that allows the CLEC to initiate its own services simply through a software execution.

The record definitively establishes that reliable provisioning is a significant obstacle to entry solely through UNE-L. As GCI noted in its initial comments, it rolled

⁴⁸ *Id.* at 14. See also *WorldCom Triennial Review Comments* at 109-10.

⁴⁹ *AT&T Triennial Comments* at 195.

⁵⁰ *Id.* at 195 n.188.

out residential service in Fairbanks on a zip code-by-zip code basis because the local ILEC cannot or will not provision hot cuts on a mass-market basis or even in compliance with the Regulatory Commission of Alaska's requirements.⁵² GCI would have preferred to launch its Fairbanks residential service across the entire Fairbanks market, but limited its approach in order to avoid frustrating customers by placing them on a hot cut waiting list, which resulted in waits of 3-6 months in the Anchorage market.⁵³ A mass attack approach is preferable because it allows GCI to build its customer base more rapidly and gives the ILEC less time to respond to GCI's offering in the marketplace. Area-wide offerings also make more efficient use of marketing. For example, radio and television ads are a sunk cost that reach the entire market, but are only useful for a small part of the market when service is rolled out by zip code.

GCI is currently rolling out UNE-L service in Juneau and is again facing a severe hot cut problem. The ILEC, ACS, has decided to limit GCI to 5 hot cuts at night and 10 hot cuts during daytime hours, for a total of 15 hot cuts per day. These limitations have already resulted in a customer backlog of at least 5 weeks, which promises to only get worse once GCI actually starts advertising in Juneau this week.

The hot cut problem GCI faced in Fairbanks and is facing now in Juneau is not limited to "new" GCI customers; it affects customer moves as well as new customers. The fact that the ILEC is hardwired into the local exchange architecture as the local

⁵¹ In addition to being uneconomic, remote terminal collocation is technically infeasible because remote terminals lack sufficient space, power, and HVAC capability. *See AT&T Triennial Comments* at 192-98.

⁵² *GCI Triennial Comments* at 8-9.

⁵³ *Hitz Declaration* at 3, ¶ 14.

service provider means that, anytime a GCI customer moves to another location, another hot cut must be performed. Thus, to the extent there is a hot cut backlog, GCI cannot quickly and reliably resume serving a current GCI customer that moves to another location using GCI's switch. In the absence of UNE-P, the customer would be forced to use ILEC services resold by GCI rather than GCI's own services. This deprives the customer and GCI of the benefit of GCI's service innovations, which cannot necessarily be offered using resale. At least one commenter noted that in New York, the ILEC's hot cut capacity is practically overwhelmed just servicing churn.⁵⁴

The record also supports GCI's view that resale is not an adequate substitute for UNE-P as a means of entry when ILEC provisioning of loops is inadequate. While GCI has used resale to gain quick entry into the market, it does not allow GCI to differentiate its services from those of the ILEC. UNE-P, however, does allow "CLECs to design their own calling packages and potentially the ability to develop more advanced services using the functionality of the ILECs' switches."⁵⁵ The ability to offer its own differentiated services using UNE-P is important for GCI due to the UNE-L provisioning problems GCI has faced in Alaska. For example, Z-Tel notes that it uses UNE-P because—given the ILECs' inability to provision hot cuts on a mass market scale and Z-Tel's inability to duplicate the ILECs' ubiquitous networks—it is the only way to offer its innovative software-based services to the mass market.⁵⁶

⁵⁴ See *Z-Tel Triennial Comments* at 40-41.

⁵⁵ Comments of Pennsylvania Office of Consumer Advocate *et al.*, CC Docket Nos. 01-338, 96-98, and 98-147 at 11 (filed Apr. 5, 2002).

⁵⁶ *Z-tel Triennial Comments* at 1-3.

IV. GCI WOULD BE IMPAIRED WITHOUT ACCESS TO CONDITIONED LOOPS

The record also clearly shows that GCI and other CLECs would be impaired without access to conditioned loops that can be used to provide high capacity telecommunications, including telecommunications integrated with information services. The ILECs gloss over all distinctions in the relevant product and geographic markets in order to make the extravagant claim that the presence of intermodal competition in “mass market broadband services” means that CLECs no longer require unbundled access to conditioned loops anywhere.⁵⁷ The ILECs wholly fail, however, to introduce any rigorous economic analysis to back up their sweeping assertions.

As GCI explained in its initial comments, a proper market analysis of impairment must reflect Section 251(d)(2)(B)'s express direction that impairment is to be judged based on whether "the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer."⁵⁸ A proper market analysis must then examine each of the following questions, which are drawn from the standard competitive analysis used by the Commission and the Department of Justice adapted for Section 251(d)(2)(B)'s express focus on the services the requesting carrier is seeking to offer:

- What is the relevant product market in which the requesting carrier is seeking to offer services?

⁵⁷ See, e.g., *Verizon Triennial Comments* at 6-7, 81; Comments of SBC Communications, Inc., CC Docket No. 01-337 at 32 (filed Mar.1, 2002).

⁵⁸ 47 U.S.C. § 251(d)(2)(B).

- What is the relevant geographic market in which the requesting carrier is seeking to offer its services?
- What is the relevant input product market?
- What is the relevant input geographic market?
- Other than the ILEC's unbundled network element, what are the other actual and potential sources of supply of the functions provided by that ILEC network element, in the relevant input market, that will permit the requesting carrier to offer its services in the relevant output market?
- What are the barriers to use of the other actual and potential sources of supply of the functions provided by that ILEC network element, and how quickly can those barriers be overcome?

ILECs fail to address each of these questions in their comments or in either the so-called *UNE Fact Report* or *Broadband Fact Report*. When, as demonstrated further below, each of the steps in the analysis is applied to the high capacity telecommunications and information services that GCI provides to small and medium sized businesses today over ILEC unbundled conditioned loops, it is apparent that GCI would be impaired in offering these services without access to conditioned loops.

In addition, it is important to note that Section 251(d)(2)(B) is, by its express terms, not a consumer welfare analysis, but expressly focuses on whether the requesting carrier can "provide the services it seeks to offer." Congress made the explicit choice that the impairment determination under Section 251(d)(2)(B) would focus not just on competition, but also specifically on competitors. This means that the Commission must find impairment if a specific competitor, *i.e.*, the requesting carrier, cannot provide the

services it seeks to offer without access to the ILEC network element, even if another competitor (other than the ILEC) may be able to serve the same customer using non-ILEC facilities. If, at some point in time, Section 251(c)⁵⁹ is so fully implemented that unbundling no longer serves any pro-competitive purpose, then forbearance may be appropriate under Section 10. However, Section 10 itself expressly precludes forbearance from Section 251(c) obligations until those requirements have been "fully implemented."

A. ILECs Fail to Distinguish Between Distinct Product and Geographic Markets in Which GCI Seeks to Offer Service

The comments demonstrate that there are at least three broadband product markets and that the geographic market for broadband is local. The ILECs have not rebutted that evidence in this or any of the other related dockets. Instead, they rely on two "bootstrap" arguments. First, they limit their discussion really only to mass-market, residential broadband Internet access products, but then apply their arguments to other product markets. Second, they nationalize the geographic market, without any evidence that different geographies have similar market characteristics, when in fact they do not. Both generalizations are obviously wrong, especially in light of the court's opinion in *United States Telecom Ass'n v. FCC*,⁶⁰ which confirms GCI's view that any "impairment" analysis must consider the appropriate product and geographic markets.

As GCI argued in its initial comments as well as in its comments in the Broadband Internet Access Framework proceeding and the ILEC Broadband Dominance/Non-Dominance proceeding, it seeks to offer high capacity

⁵⁹ 47 U.S.C. § 251(c).

telecommunications and information services to customers in at least three distinct product markets: residential services; small to medium sized business services; and large enterprise services.⁶¹ The record in this and the other related dockets overwhelmingly supports GCI's view that these are discrete product markets.⁶² According to most commenters, the service needs of small and medium businesses differ significantly from the service needs of casual residential users and large businesses.⁶³ Small and medium businesses often require multiple voice connections, high-speed Internet access, and data throughput with enhanced reliability and security, features that are typically not required by residential users.⁶⁴ And although small and medium size businesses require far greater

⁶⁰ Case No. 00-1012 (D.C. Cir., May 24, 2002) (remanding the *UNE Remand Order* because the Commission's UNE rules were not market specific).

⁶¹ *GCI Triennial Comments* at 14, 21-22; *GCI Broadband Framework Comments* at 15-16; Reply Comments of General Communication, Inc., CC Docket Nos. 02-33, 95-20, and 98-10 at 7 (filed July 1, 2002); Reply Comments of General Communication, Inc., CC Docket No. 01-337 at 12-14 (filed Apr. 22, 2002).

⁶² See, e.g., *WorldCom Triennial Comments* at 39 (“[B]usiness customers – regardless of size – demand a higher quality of broadband services than that demanded by residential consumers.”); Comments of Time Warner Telecom, CC Docket Nos. 02-33, 95-20 and 98-10 at 32 (filed May 3, 2002) (“*Time Warner Broadband Framework Comments*”) (“Regardless of its determinations with regard to mass market broadband services, the Commission can come to no other conclusion than that the only competitors in the provision of broadband service to medium and large businesses are intramodal and that ILECs continue to control high-capacity end-user connections used by those intramodal competitors.”); Comments of Covad Communications Company, CC Docket Nos. 01-338, 96-98, and 98-147 at 36 (filed April 5, 2002) (“In particular, cable plant is deficient because, even if CLECs could access it (which they cannot do under the law), broadband services offered thereon are not dedicated to the customer, lack the security of dedicated DSL facilities, and are rarely, if ever, available to business customers.”). The Commission has recognized that even with the realm of high-speed Internet access services, there are “differing speeds of access; technical performance; price; availability of customer support; and extent of content.” *AOL/Time Warner Merger Order*, FCC 01-12, 16 FCC Rcd. 6547, 6571, ¶ 62 (2001).

⁶³ *Id.*

⁶⁴ *Id.*

network reliability and security than do residential customers, many small and medium size businesses that require these network traits typically cannot afford to install and do not need higher capacity Frame Relay, ATM, or Gigabit Ethernet services, which are the preferred methods of broadband delivery to large businesses.⁶⁵ Small and medium businesses therefore typically use broadband services provided over conditioned loops, which provide sufficient bandwidth capacity as well as enhanced reliability and security at a relatively low cost by using already existing copper loops.⁶⁶

GCI has also demonstrated, as have other commenters, that the appropriate geographic market in which a carrier is seeking to offer its services is local.⁶⁷ High-speed telecommunications and data services in Anchorage are not a substitute for such services in Fairbanks or Juneau.⁶⁸ Indeed, they are not even substitutes for such services in parts of Anchorage that GCI cannot reach without access to ILEC conditioned loops. For this

⁶⁵ “Services requiring a transmission rate in excess of 1.5 Mbps must employ a fiber or radio based connection,” and “fiber has an uneconomically high cost per unit of transmission carried, unless the customer has enormous transmission requirements for its loop.” *AT&T Triennial Comments* at 131-32. Time Warner Telecom notes that it serves its medium and large business customers using either ILEC special access end-user connections or fiber end-user connections it builds. *Time Warner Broadband Framework Comments* at 33. See also California PUC Comments, CC Docket Nos. 01-338, 96-98, and 98-147 at 7-8 (filed Apr. 5, 2002) (“*California PUC Comments*”) (“Because of the significantly larger cost of a DS1 line, as a practical matter, access to DSL technology is the only cost-effective option for residential and small business customers.”).

⁶⁶ DSL’s ability to provide the functionality necessary for small and medium businesses at a relatively low cost is why DSL technology remains the option of choice for business broadband users. See *WorldCom Triennial Comments* at 40.

⁶⁷ See, e.g., *GCI Broadband Framework Reply Comments* at 7; *California PUC Comments* at 7-8.

⁶⁸ See *AOL/Time Warner Merger Order*, 16 FCC Rcd. at 6578, ¶ 74 (“[A] consumer's choices are limited to those companies that offer high-speed Internet access services in his or her area, and the only way to obtain different choices is to move.”).

reason, the FCC has already concluded that the geographic market for high-speed services is local.⁶⁹

The ILECs nevertheless ask the Commission to apply the “customer aggregation approach” applied to long distance,⁷⁰ where the Commission aggregated geographic markets because there was “no credible evidence suggesting that there is, or could be, different competitive conditions in a particular point-to-point [long distance] market, or groups of point-to-point [long distance] markets.”⁷¹ For broadband, however, there is more than merely “credible evidence” of different competitive conditions in particular point-to-point markets.⁷² The ILECs themselves state that only one-in-three residential consumers in the U.S. has access to both cable modem and DSL service;⁷³ “terrestrial wireless services are small in scale at present”;⁷⁴ and high-speed Internet access over satellite, in addition to its current technical limitations, is priced significantly higher than DSL or cable modem service.⁷⁵ The ILECs’ own evidence thus establishes that the intermodal availability of broadband service varies dramatically among geographic areas

⁶⁹ *Id.* (“The relevant geographic markets for residential high-speed Internet access services are local.”).

⁷⁰ Comments of Verizon, CC Docket 01-337 at 23 (filed Mar. 1, 2001) (“*Verizon Non-Dominance Comments*”).

⁷¹ *WorldCom/MCI Merger Order*, 13 FCC Rcd. at 18042-43, ¶¶ 30-31.

⁷² *See, e.g.*, Comments of the Consumer Federation of America *et al.*, CC Docket Nos. 01-338, 96-98, and 98-147 at 31-32 (filed Apr. 5, 2002) (describing broadband geographic markets).

⁷³ Broadband Fact Report, CC Docket Nos. 02-33, 95-20 and 98-10 at 1 (filed Mar. 1, 2002) (“*Broadband Fact Report*”).

⁷⁴ *Verizon Non-Dominance Comments* at 23. The ILECs provide no statistics regarding the deployment levels of fixed terrestrial wireless, presumably because there has been little to no deployment of such services, and in some markets where service had been provided, it has since been withdrawn.

⁷⁵ *Broadband Fact Report* at 1.

and that consumer choice in any given area is substantially limited. As the National Research Council put it, where broadband is concerned, "location matters."⁷⁶

Accordingly, the geographic market for broadband services is local, and the "customer aggregation approach" is inapplicable.

B. The Relevant Input Market Is High Capacity Last Mile Transmission to the Customer the CLEC Seeks to Serve

For a CLEC to offer high capacity telecommunications and information services, it must have a way to connect to the subscriber. The geographic market is literally point-to-point, from the CLEC's network to the customer. Substitutes to other locations are not in the same geographic market. Because the intermodal availability of broadband services varies dramatically among local geographic markets, the Commission cannot eliminate unbundling of conditioned loops on a national basis. To do so would make conditioned loops unavailable to CLECS in "many markets where there is no reasonable basis for thinking that"⁷⁷ the existence of alternatives to incumbent loops leaves CLECs unimpaired.⁷⁸ Should the Commission wish to eliminate unbundling of any DSL-qualified loops, it must do so on a geographic market-basis.

In addition, the last-mile transmission facility must be one that is capable of transmitting the signals to the customer with the requisite capacity and quality. Thus, depending on how a cable network is configured, a transmission path over a cable modem may not be a substitute for a transmission path of copper twisted pair. Similarly,

⁷⁶ *NRC Broadband Report* at 18. According to the California PUC, for example, "11 million Californians, or one-third of all Californians, lives in cities where DSL service is the only choice for broadband service." *California PUC Comments* at 7-8.

⁷⁷ *United States Telecom Ass'n v. FCC*, slip op. at 7-8.

⁷⁸ *C.f. id.* at 7-12 (criticizing Commission for unbundling across the board in every geographic market and customer class).

satellite lag times may render that path unsuitable for providing last-mile service to the customer, just as signal quality concerns may do so for terrestrial wireless.

GCI's experience is that for any business user not on its cable network, or for business users for whom the cable modem service is not an adequate substitute, it must have another means of reaching that customer. As discussed in the next section, the only available means of reaching those business customers today is over ILEC unbundled conditioned loops.

C. The Record Confirms that CLECs Lack Alternatives to Conditioned Loops When Serving Business Customers

The ILECs proffer a range of actual or potential substitutes for their own conditioned loop facilities. The list of actual or potential competitors includes cable modem facilities, terrestrial wireless, satellite, as well as the CLEC's own fiber facilities. While these technologies represent the range of potential alternatives that are theoretically possible, GCI has demonstrated that in Alaska these alternatives are not deployed in many areas to serve business customers, and even where they are deployed there are substantial barriers to use of alternatives to the ILEC's conditioned loops.⁷⁹ When the appropriate product and geographic markets are taken into account, it is clear that CLECs do not have any alternative to unbundled DSL-qualified loops when they seek to offer services to business customers.

1. Self-Provisioning of Conditioned Loops Is Not Feasible

Conditioned loops are just loops for which bridge taps and loading coils have been removed. As such, they are subject to the same substantial entry barriers as "ordinary" loops. That self-provisioning of loops – conditioned or otherwise – is not

feasible has never really been subject to much debate, and for good reason. The loop is the most time consuming and expensive network element to install,⁸⁰ and one of the primary reasons conditioned loops are attractive to small and medium businesses is relatively low cost, due in part to its use of the already existing copper loop. As AT&T noted in its comments, CLECs that attempt to self-provision loops face enormous obstacles, including:

- (1) the enormous costs of the initial capital investment;
- (2) the fact that loop transmission facilities are often dedicated to a single customer, so that the significant costs of deploying those transmission facilities will be stranded if the planned-for customer never materializes, ceases operation, or terminates service;
- (3) the long gap between the time the costs of deploying facilities are incurred and the time they begin to generate revenues;
- (4) the fact that almost all current customers are served by an incumbent provider and therefore must be persuaded to switch carriers; and
- (5) the enormous technical difficulties a CLEC faces in switching a customer from the incumbent's facilities to its own facilities.⁸¹

These obstacles are especially steep for self-provisioning of conditioned loops, whose distinguishing characteristic is the ability to harness existing loops. As AT&T established in its comments, "it would be economically irrational for virtually any new entrant to install new copper facilities to compete with the incumbents' ubiquitous loop plant."⁸² For these reasons, as well as others, the Commission has repeatedly concluded

⁷⁹ *Hitz Declaration* at 4.

⁸⁰ *See* Third Report and Order and Fourth Further Notice of Proposed Rulemaking, *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, 15 FCC Rcd. 3696, ¶ 182, 211 (1999) ("*UNE Remand Order*").

⁸¹ *AT&T Triennial Comments* at 127.

⁸² *Id.* at 132.

that where CLECs do not have access to alternative facilities, loops must be unbundled.⁸³ Nothing that has occurred in the last three years changes this conclusion.

As GCI has previously described, in addition to other barriers, GCI is often impaired by lack of building access, even where buildings are already passed by its fiber ring.⁸⁴ Other commenters also describe building access issues in detail. WorldCom states that a landlord in New York “is seeking \$100,000 per year to provide WorldCom access to the landlord's building.”⁸⁵ AT&T notes that many landlords deny access at all, and even when access is allowed, limit it to a fiber to the floor arrangement that allows AT&T to serve only one customer.⁸⁶ The ILEC, who already has building access as a legacy of its monopoly, does not need to incur these costs and barriers, and because the ILEC is already in the building offering service to tenants, the entering CLEC lacks leverage to negotiate building access. These additional barriers to self-provisioning prevent CLECs from serving some customers even when the economics otherwise support it.

2. Cable Modem Service Does Not Serve Many Business Areas and Does Not Satisfy the Requirements of All Business Customers

While cable modem does compete with some DSL-based services in the residential broadband product market in some geographic markets, the comments make clear that cable modem service is not a ubiquitous alternative for business customers "for

⁸³ See, e.g., *UNE Remand Order* at ¶¶ 182, 211.

⁸⁴ See *GCI Triennial Review Comments* at 6. See also, e.g., Comments of AT&T Wireless Services, Inc., CC Docket Nos. 01-338, 96-98, and 98-147 at 11 (filed Apr. 5, 2002) (“[D]eployment of new network facilities requires cooperation on many levels, including from localities, other carriers, and building owners.”);

⁸⁵ *WorldCom Triennial Comments* at 20.

⁸⁶ *AT&T Triennial Comments* at 146.

a number of reasons, including limitations in geographic availability as well as insufficient service quality, reliability, and security.”⁸⁷ Put in terms of the relevant product market, while cable modem service is suitable for the residential broadband market, in some instances its technical characteristics render it not a source of supply for the business product markets.⁸⁸ The comments also confirm GCI’s common sense point that, even if cable modem service could routinely serve all business customers’ service needs, it is not available in most, let alone all, business geographic markets.⁸⁹ Whatever intermodal competition cable modem service provides in broadband product markets, it does not provide any competition in areas not passed by cable plant, and “cable modem service is generally not available to businesses.”⁹⁰ As GCI stated in the Broadband

⁸⁷ *Worldcom Triennial Comments* at 42.

⁸⁸ *See, e.g., id.; Time Warner Broadband Framework Comments* at 32-34 (noting that only ILEC broadband services “provide the consistently high speeds and advanced features required by medium and large businesses.”); Joint Declaration of Anjali Joshi, Eric Moyer, Mark Richman, and Michael Zulevic on Behalf of Covad Communications Company at ¶¶ 14-18 (*Covad Communications Company Joint Declaration*) (attached to *Covad Triennial Comments*); Comments of DSL.net Communications, Inc., CC Docket Nos. 02-33, 95-20 and 98-10 at 38 (filed May 3, 2002) (“Differences between their respective customer bases render cable modem services, which focuses primarily on residential customers, an inadequate substitute for broadband access provides such as DSL.net which target business customers.”).

⁸⁹ *See, e.g., AT&T Triennial Comments* at 93 (“[T]here is almost no intermodal competition for small business customers.”); *Covad Communications Company Joint Declaration* at ¶ 15; Comments of Allegiance Telecom, Inc., CC Docket Nos. 02-33, 95-20 and 98-10 at 57 (filed May 3, 2002) (“[W]hile cable and wireline providers compete in some residential markets, there is no such intermodal competition in business markets, and adoption of the Commission’s tentative conclusions threatens to eliminate what little intramodal competition exists in the SME market today.”); *California PUC Comments* at 7-8 (“[I]n California [cable modem] service is provided only in suburban residential communities with some spotty coverage within the downtown areas.”).

⁹⁰ *Covad Communications Company Joint Declaration* at ¶ 15.

Internet Access Framework proceeding, in Anchorage, 50% of businesses do not have access to a cable drop, but a telephone line serves every one of them.⁹¹

The geographic market analysis is not limited to any one building. As WorldCom noted in its Triennial Review comments: “One of the key characteristics of the enterprise segment of the business market is that enterprise customers typically require service in multiple locations scattered throughout a city or the nation.”⁹² Thus, to compete effectively for an enterprise customer’s business, a CLEC must be able to provide broadband and other services to all of the customer’s locations.⁹³ Because cable plant is not ubiquitous, “there is almost no chance that *all* of a multi-location customer’s buildings can be served over [cable] facilities.”⁹⁴ Thus, where cable modem service can serve some but not all of a multi-location customer’s buildings, a CLEC seeking to use cable plant would still require access to ILEC wireline facilities in order to be able to reach all of the customer’s locations.⁹⁵ Moreover, in the event the customer desires uniform network technology but has locations that are not served by the cable network, a cable modem provider would not be able to serve the customer at all.

It is axiomatic that where cable does not serve a business or its needs, cable does not factor into the impairment analysis.

⁹¹ *GCI Broadband Framework Comments* at 3, 20.

⁹² *Worldcom Triennial Comments* at 14.

⁹³ *Id.*; *Eschelon Triennial Comments* at 12-13 (demonstrating that a substantial portion of Eschelon’s customers has multiple locations and that, in many cases, these customers would not even consider Eschelon for their service provider unless Eschelon could serve all their locations).

⁹⁴ *Id.* at 18.

⁹⁵ *See id.*

3. Wireless and Satellite Services Do Not Satisfy the Requirements of Business Customers

In their *Broadband Fact Report*, the ILECs attempt to bolster their ailing intermodal competition argument by throwing wireless and satellite services into the mix. ILEC spin aside, the record reveals that neither wireless nor satellite delivered “broadband” service provides a competitive alternative to conditioned loops in any of the broadband product markets.⁹⁶ As noted by the National Research Council, the “long-term economic viability” of fixed terrestrial and satellite services “is uncertain at present.”⁹⁷

Mobile wireless is not substitutable for services provided over conditioned loops because it does not offer competitive throughput rates. As WorldCom noted, second-generation mobile wireless services typically operate at 10 kbps, and the average per user rate of third-generation services is expected to be only between 50 kbps and 100 kbps.⁹⁸ According to the National Research Council, “While so-called third-generation (3G) wireless will provide more capabilities than present systems do, the throughput per user falls short of a reasonable definition of broadband.”⁹⁹ In addition to low throughput, it is common knowledge that mobile wireless services still lack reliable connectivity and, due to the size of the receiving equipment, offer limited functionality. As a result of these

⁹⁶ See SES Americom, Inc. Comments, CC Docket No. 02-33, 95-20 and 98-10 at 2-3 (filed May 3, 2002); Comments of Hughes Network Systems, Inc. *et al.*, CC Docket Nos. 02-33, 95-20 and 98-10 at 2 (filed May 3, 2002); *AT&T Triennial Comments* at 58; Comments of Sprint Corp., CC Docket Nos. 01-338, 96-98, and 98-147 at 24-25 (filed April 5, 2002) (“*Sprint Triennial Comments*”); Comments of Texas PUC, CC Docket Nos. 01-338, 96-98, and 98-147 at 6 (filed Apr. 5, 2002) (“*Texas PUC Triennial Comments*”).

⁹⁷ *NRC Broadband Report* at 187.

⁹⁸ *Worldcom Triennial Comments* at 43-44.

capacity and service constraints, neither residential nor business consumers would switch to mobile wireless “broadband” in response to a small but significant and non-transitory price increase in DSL-based services.¹⁰⁰

The Regulatory Commission of Alaska -- the state regulator in the markets that GCI serves -- as well as AT&T and Sprint support GCI’s conclusion in its initial comments regarding fixed wireless services: fixed wireless is not a viable alternative to ILEC transmission facilities at this time, either for the end user consumer or for a service provider seeking to provide its own broadband services.¹⁰¹ As both AT&T and Sprint noted in their comments, carriers that vigorously pursued fixed wireless service have either pulled out of the market or gone bankrupt.¹⁰² Fixed wireless licensees, including GCI, have encountered significant technical and economic problems in the delivery of reliable broadband service on a mass-market basis, including weak transmission signals, lack of features and functions, and difficulty in receiving local approval for tower sites.¹⁰³

⁹⁹ *NRC Broadband Report* at 20.

¹⁰⁰ *See id.*

¹⁰¹ *See Reply Comments of the Regulatory Commission of Alaska, CC Docket Nos. 02-33, 95-20, and 98-10 at 7-8 (filed June 26, 2002) (“RCA Reply Comments”) (“Fixed wireless and satellite are not currently viable competitive options in most areas and may never be.” (footnote omitted)); AT&T Triennial Comments at 58; Sprint Triennial Comments at 24-25.*

¹⁰² *AT&T Triennial Comments at 58; Sprint Triennial Comments at 24-25.* The Texas PUC noted that in Texas, AT&T ceased operation of a fixed wireless network serving 30,000 people, and that Sprint has halted any new development of its fixed wireless platform for the immediate future. *Texas PUC Triennial Comments at 6 n.15.*

¹⁰³ *GCI Broadband Framework Comments at 19, 19 n.42. See also Sprint Triennial Comments at 24 (noting that it is not aggressively pursuing fixed wireless service at this time “due to limitations of current technology”); NRC Broadband Report at 20 (stating that, due to its current limitations, fixed wireless remains a “niche player” in the broadband market that lacks the functionality and availability of wireline broadband services).*

Consumers cannot switch to an unavailable service, and will not switch to a service with less functionality, in response to a small but significant and nontransitory price increase in wireline broadband services.

The ILECs' *Broadband "Fact" Report* also misses the mark widely when it suggests that direct to home (DTH) satellite broadband services are substitutable for wireline broadband services. While DTH satellite broadband services are useful in rural areas not served by wireline broadband, the National Research Council found that "it is unclear at this point whether [satellite broadband] services will be able to achieve and maintain sufficient performance levels to serve as adequate substitutes for the functionality of wireline services, or how their cost and price will compare in the long run with wireline service in more densely populated areas."¹⁰⁴ Indeed, the ILECs themselves admit that DTH satellite broadband is technically inferior, that the typical monthly service fee for 2-way satellite service is \$60 to \$70 per month compared to \$30 to \$50 per month for ADSL, and that the total installation and equipment cost for satellite service is \$600 to \$849 compared to \$99 to \$375 for ADSL.¹⁰⁵ In addition to this disparity in price, the ILECs also concede that DTH satellite broadband service suffers from a disparity in speed.¹⁰⁶ According to the ILEC's own report, DTH satellite broadband service has much lower maximum downstream and upstream speeds than wireline broadband

¹⁰⁴ *NRC Broadband Report* at 20.

¹⁰⁵ *Broadband Fact Report* at 12, Table 2. The NRC recognized this dramatic cost disparity in its Report, which noted that satellite broadband has a "cost and performance factor inferior to what would be possible with access through alternative [wireline] technologies" such as DSL and cable modem. *NRC Broadband Report* at 21.

¹⁰⁶ *Broadband Fact Report* at 8, Table 1.

services.¹⁰⁷ Moreover, because DTH satellite broadband radio signals must travel a considerable distance from the satellite to the earth, DTH satellite broadband service suffers from significant lag times.¹⁰⁸ The lag times inherent in current DTH satellite broadband makes it unsuitable for some real-time broadband applications.¹⁰⁹ These facts make it highly unlikely that consumers would switch from wireline broadband to DTH satellite broadband in response to a small but significant and nontransitory price increase in wireline broadband.

CONCLUSION

The record reveals that both ILECs and CLECs are investing in facilities to provide basic and advanced services despite tight capital markets, and that unbundling does not discourage such investment. And while intermodal competition has begun in some product markets in some geographic areas, a rigorous economic analysis of competitive alternatives shows that intermodal competition is still in its nascent stages and has not even come close to justifying a change in unbundling policy. When subject

¹⁰⁷ *Id.*

¹⁰⁸ *See NRC Broadband Report* at 87.

¹⁰⁹ *See id.* (“[D]elays of as little as 50 milliseconds can impair game play.”).

to appropriate scrutiny, it is clear that the ILECs' arguments about investment incentives and intermodal competition do not support the drastic changes to the unbundling regime they seek.

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