COMPETING PROVIDERS ARE SUCCESSFULLY PROVIDING HIGH-CAPACITY SERVICES TO CUSTOMERS WITHOUT USING UNBUNDLED ELEMENTS

Introduction and Summary

In response to reports that the Commission is considering interim and permanent rules to replace the unbundling requirements that were vacated when the D.C. Circuit issued its mandate in *USTA v. FCC*, 359 F.3d 554 (D.C. Cir. 2004) ("*USTA II*"), Verizon previously submitted market-specific information, including detailed maps, that is directly responsive to the Court's decision. This White Paper supplements that previous filing with additional detail and supporting evidence. Taken together, these two filings demonstrate that wherever there is demand for high-capacity services, competing providers can and are serving customers without unbundled elements. In particular, the evidence provided here focuses on the market facts the Court required the Commission to consider in making an impairment evaluation for these services.

For example, the Court held that the Commission must "consider the availability of tariffed ILEC special access services when determining whether would-be entrants are impaired." *USTA II*, 359 F.3d at 577. Competing carriers have been successful in serving both large and small customers using not only their own and other competing providers' facilities, but also special access service purchased from Verizon. As illustrated for the twenty metropolitan statistical areas ("MSAs") with the highest concentration of demand for Verizon's high-capacity services, competing carriers are using special access to serve customers throughout Verizon's serving areas. Indeed, 93 percent of DS-1 loops that carriers purchase from Verizon, which they then use to serve their own customers, are sold as special access (as opposed to as unbundled elements).

Of course, competing carriers do not merely rely on ILEC special access, they also have built extensive competitive facilities wherever there are significant pockets of demand for high-capacity services. The demand for such services is highly concentrated. For example, 80 percent of the demand for Verizon's high-capacity special access services is concentrated in fewer than 8 percent of its wire centers. In those highly concentrated areas, competing carriers can and have built their own networks. There are an average of 20 such networks in each of the top 50 MSAs. In the maps that Verizon has previously provided, Verizon identifies the known places where competing carriers have deployed their own networks, and, to the extent such information is available to Verizon, where competing carriers have lit commercial buildings to serve them with competing fiber. These maps clearly illustrate that where there are concentrations of demand, there are concentrations of competitively supplied fiber.

The result of all of this is that competing providers are competing successfully to provide high-capacity services to business customers of all shapes and sizes. At the top end of the market, competing carriers, and in particular the large traditional long distance carriers, have dominated the provision of high-capacity services to large enterprise customers who make up the bulk of retail demand for those services — for Verizon, more than 85 percent of its sales to end-user business customers. AT&T, MCI, and Sprint account for nearly half of all revenues generated from larger enterprise customers and these three carriers are the primary telecommunications provider to nearly three quarters of large corporate accounts.

But competing carriers also are successfully providing high-capacity services to small business customers wherever demand exists. Competing carriers purchasing special access from Verizon are in fact using it to serve a wide spectrum of small businesses that includes antique dealers, book stores, dry cleaners, florists, gas stations, and hair dressers, to name just a few.

Moreover, where competitive fiber has been deployed to a building, a competing carrier can serve small businesses in those buildings just as easily as it can serve larger businesses.

Because alternative providers are competing where there is demand, and are successfully serving customers without the need for unbundled elements, the question whether competing carriers are impaired without access to UNEs — which requires a determination of whether high-capacity services are "suitable for competitive supply" — must be answered in the negative. *USTA II*, 359 F.2d at 571. Where competing carriers already are successfully providing high-capacity services using a combination of their own facilities and special access, there is no impairment and unbundling cannot be required. The evidence presented here — and in the attached declarations and tables and previously provided maps — provides the evidentiary basis the Commission needs to evaluate impairment as required by the Act. Based on this record, the Commission may not require unbundling of high-capacity loops or dedicated transport, including dark fiber loops.

This is true both for high-capacity facilities in general, and, as discussed below, it also is true for the several classes of high-capacity customers, services, and facilities for which competition is especially intense — large enterprise customers, wireless and long-distance carriers, EELs, packet-switched services, and entrance facilities. Moreover, the Commission must follow this approach both with respect to the formulation of new permanent rules, as well as with respect to any interim rules that it may adopt.

I. Background

In the *Triennial Review Order*, the Commission made four key determinations in imposing unbundling obligations for virtually all high-capacity facilities, including high-capacity loops, dedicated transport, and dark fiber. First, the *Order* defined the relevant geographic market for both high-capacity loops and dedicated transport as each unique, individual, point-to-point route. *See Triennial Review Order*, 18 FCC Rcd 16978, ¶¶ 307, 335, 360, 410 (2003). Second, the *Order* established "triggers" for eliminating unbundling obligations where there are multiple competitive providers on a given route, and delegated to the states the responsibility for determining the routes on which the triggers are met (and where carriers, therefore, are not impaired). *See id.* ¶¶ 330, 339, 400, 417. Third, the *Order* recognized that there are other instances where a "customer location *could* be economically served by competitive carriers" and competitors therefore are not impaired, even where the triggers are not met. *See id.* ¶¶ 335, 410 (emphasis added). The *Order* also delegated to the states the responsibility of determining where that is the case. Fourth, the *Order* refused to consider evidence that competitors are successfully providing high-capacity services using special access purchased from incumbents. *See, e.g., id.* ¶ 102.

In *USTA II*, the D.C. Circuit vacated the rules requiring unbundling of high-capacity facilities, defined as any "transmission facilities dedicated to a single customer or a carrier" and, thus, to include both dedicated transport and high-capacity loops. 359 F.3d at 573. The Court reached four key conclusions that are relevant to high-capacity facilities. First, the Court criticized the *Order*'s decision to define individual routes as unique markets, requiring instead "a sensible definition of the markets in which deployment" occurs and that the Commission consider "facilities deployment along similar routes when assessing impairment." *Id.* at 574,

575. The impairment determination, the Court held, must consider "similarly situated" routes to where high-capacity facilities are deployed, and the presence of actual "competition on one route" is evidence that must be considered "when assessing impairment" on other routes. *Id.* at 575.

Second, the Court reaffirmed that the critical inquiry is whether CLECs are *capable* of competing without UNEs — that is, whether "competition is possible" without UNEs in a particular market regardless of whether one or more CLECs is already competing in that market. *Id.*; *see USTA v. FCC*, 290 F.3d 415, 427 (D.C. Cir. 2002) ("*USTA I*"). The statute's focus on the "ability" of a carrier to compete makes clear that actual competition by a particular carrier is not the test. 47 U.S.C. § 251(d)(2). Thus, evidence that even a single competitor has deployed high-capacity facilities in a market shows that competition is *possible* in that market.

Third, the Court invalidated the Commission's decision to delegate impairment determinations to state commissions and, therefore, vacated *all* "portions of the Order that delegate to state commissions the authority to determine whether CLECs are impaired without access to network elements." *USTA II*, 359 F.3d at 568. The D.C. Circuit thus made clear, as the Supreme Court had done before, that impairment determinations must be made by the Commission itself. *See AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 391-92 (1999).

Fourth, the Court held that the Commission "must consider the availability of tariffed ILEC special access services when determining whether would-be entrants are impaired." *USTA II*, 359 F.3d at 577. As the Court explained, where "competitors have access to necessary inputs at rates that allow competition not only to survive but to flourish, it is hard to see any need for the Commission to impose the costs of mandatory unbundling." *Id.* at 576. As the Supreme Court made clear in *Iowa Utilities Board*, the impairment standard is not satisfied simply

because unbundled access would permit competitors to reduce their costs and earn higher profits. *See* 525 U.S. at 390.

II. High-Capacity Services Are Uniquely Suited to Competitive Supply

In order to formulate "a sensible definition" of the high-capacity market, it is necessary to begin with the recognition that this market is characterized by a number of demand- and supply-side characteristics that make high-capacity services uniquely suited to competitive supply.

As an initial matter, the demand for high-capacity services is highly concentrated geographically, which as the Commission has recognized provides greater opportunities for competitors. *See Triennial Review Order* ¶¶ 205, 375. As shown in Attachment 5, more than *80 percent* of the demand for high-capacity special access services in Verizon's region is concentrated in fewer than *8 percent* of its wire centers (or 532 out of 6,900 total). These wire centers, in turn, are highly concentrated in the largest metropolitan areas — more than *three-quarters* of the 532 wire centers where demand is concentrated are located in only the 20 MSAs in Verizon's serving area with the largest amount of high-capacity demand. Moreover, within each of those wire centers, demand is further concentrated in large office buildings and business parks. *See id.* ¶ 298.

Demand for high-capacity services also is concentrated among those customers that generate both the relatively high volumes of traffic that warrant use of dedicated, high-capacity facilities and the correspondingly high revenues. *See WorldCom, Inc. v. FCC*, 238 F.3d 449, 453 (D.C. Cir. 2001) ("Most users of special access services are companies with high call volumes."). Users of high-capacity services, therefore, are an attractive customer segment that has been heavily targeted by competing providers when they enter a new market area. *See also Triennial Review Order* ¶ 303. As shown in Attachment 6, because demand is concentrated most heavily in the larger MSAs, the size of an MSA is strongly correlated with the number of CLEC

networks in that MSA. And Attachment 7, discussed in more detail below, shows that competitors with fiber networks target the specific buildings where that demand is concentrated.

Finally, once a competitor decides to offer high-capacity services in a particular market area, it can provide such services *throughout* that area, wherever demand exists. As discussed further below, competing carriers can provide high-capacity services using competitive facilities or special access services purchased from the incumbent (either exclusively or in combination). This means that once a competing carrier enters the market it can immediately decide to serve the entire market, which further increases its ability to achieve economies of scale. Verizon has developed and filed maps for the 20 MSAs in Verizon's territory in which special access demand is most heavily concentrated, which demonstrate that this is precisely what competing carriers are now doing. Verizon provided these maps in an *ex parte* submission on June 24, 2004, and incorporates them here by reference.[1]

The summary map for each MSA, in each case labeled Map A, plots specific locations where competing carriers are providing high-capacity services to customers using either special access or alternative fiber facilities in those 20 MSAs. Although the locations served by only a subset of all competing carriers are shown on the maps, they nonetheless show that competitors are providing high-capacity services throughout these MSAs — primarily in the downtown areas, where demand is most highly concentrated, but also in more far-flung areas, to the extent

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[1] *See Ex Parte* Letter from Dee May, Verizon, to Marlene Dortch, FCC, CC Docket Nos. 01-338, 96-98, and 98-147 (June 24, 2004) (attaching presentation entitled "Competing Providers Are Successfully Providing High-Capacity Services to Customers Without Using Unbundled Elements" and attaching maps as Attachments 5A through 5T to the presentation.). Those maps are organized by MSA. For each MSA there are six maps, referred to here as Maps A through Maps F. The attached Declaration of Judy Verses, Ronald Lataille, Marion Jordan and Lynelle Reney ("Verses/Lataille/Jordan/Reney Decl.") details the source data used to compile the maps. *See* Verses/Lataille/Jordan/Reney Decl. ¶¶ 9-30, 45-48 (Attachment 1).

demand also exists in those locations. The summary maps further show that competitors are doing so using *both* alternative facilities (the purple squares on the map) and Verizon's special access (the red triangles on the map).

Verizon's own experience as a competing carrier outside its region is consistent with this. When Verizon decides to enter a new out-of-region market, it begins by obtaining information from selected competing carriers about the availability and price of competitive local access facilities. *See* Declaration of Claudia Cuddy ("Cuddy Decl.") ¶¶ 2-10 (Attachment 2). Based on the information it receives and facilities it is able to obtain, Verizon establishes points of presence in certain markets and then begins offering high-capacity voice and data services to customers using a combination of its own facilities, non-ILEC fiber facilities obtained through commercial arrangements, and ILEC special access. *See id.* ¶¶ 10-13. Competing in this manner, Verizon has targeted 30 out-of-franchise markets, and has already won the business of approximately 500 customers in six out-of-region states. *See id.* ¶¶ 3, 13. Verizon's success accordingly provides additional evidence that competition in the provision of high-capacity services is possible without access to high-capacity UNEs.

III. Competition for High-Capacity Facilities and Services

Under the analytical framework the Commission is bound to apply, the evidence demonstrates that competing providers are capable of successfully providing high-capacity services to business customers *without using unbundled elements.* Indeed, competing providers are competing successfully using a combination of their own or other alternative facilities and special access services purchased from incumbent LECs. The evidence shows that competing providers are using these alternatives to UNEs to provide high-capacity services to customers of all shapes and sizes, in both large and small markets across the country. Competing providers

have in fact been so successful that they now lead in the head-to-head competition for a number of the most significant categories of high-capacity services and customers.

A. Competitors Are Capable of and Are Using Alternative High-Capacity Transport Facilities.

The evidence shows that competing providers have deployed extensive fiber facilities throughout major metropolitan areas and business parks focusing on the areas where demand for high-capacity services is concentrated, and that these providers are capable of and are using those facilities to provide transport services.

The Commission has previously acknowledged that competing providers "have deployed significant amounts of fiber transport facilities to serve local markets." *Triennial Review Order* ¶ 370; *see also id*. ¶ 398. According to New Paradigm Resources Group's *2004 CLEC Report* — a source on which the CLECs' own trade association relies for competitive fiber data — competing providers have now deployed at least one network in at least 98 of the top 100 MSAs, and an average of roughly 20 networks in each of the top 50 MSAs. *See* Attachment 8. Competing carriers themselves report that these networks consist of more than 180,000 route miles of fiber. For example, AT&T operates 20,600 route miles of local fiber and Time Warner Telecom operates 11,345 route miles of local fiber. Attachment 9 provides fiber route-mile totals for 23 additional competing providers.

Data regarding the markets served by Verizon confirm that competing providers have deployed fiber networks wherever high-capacity demand is concentrated and that these networks are capable of and are being used to provide transport services. Verizon has compiled information from two highly reliable sources of data, as described in the attached Declaration of Judy Verses, Ronald Lataille, Marion Jordan and Lynelle Reney. *First*, Verizon performed physical inspections of selected central offices with high demand levels for high-capacity

services to identify those in which competing providers have obtained fiber-based collocation. *See* Verses/Lataille/Jordan/Reney Decl. ¶¶ 9-14. Verizon's physical inspections reveal that there is competitive fiber in more than three quarters of the offices in those MSAs that are among those that account for 80 percent of the demand for high-capacity special access services in Verizon's region. The percentage of wire centers with competitive fiber in those MSAs may in fact be higher, however, because Verizon did not inspect every office within those MSAs. *See id.* ¶¶ 8-12. The Commission has previously endorsed fiber-based collocation as a means to evaluate the presence of competitive transport, *see Pricing Flexibility Order*, 14 FCC Rcd 14221, ¶ 81 (1999), and the D.C. Circuit has upheld that determination, *see WorldCom v. FCC*, 238 F.3d 449 (D.C. Cir. 2001). Both the Commission and the Court have also recognized, however, that fiber-based collocation undoubtedly *understates* the true scope of competitive fiber transport, because it "fails to account for the presence of competitors that . . . have wholly bypassed incumbent LEC facilities." *WorldCom*, 238 F.3d. at 462 (quoting *Pricing Flexibility Order* ¶ 95).

Second, Verizon obtained third-party data on *known* competitive fiber routes from GeoTel — an outside consultant that is a leading provider of information related to telecommunications geography. *See id.* ¶ 15. GeoTel maintains data on the fiber networks of approximately 85 carriers in more than 100 MSAs — much of which is derived from the carriers themselves. *See id.* Competing providers and incumbent local exchange carriers alike use this data for marketing purposes and/or to determine the availability of telecommunications services, including high-capacity transport, in a given market. *See id.* ¶ 16. Again, however, although GeoTel's data are highly reliable, they likely understate the extent of competitive fiber deployment, because GeoTel does not always obtain information about new fiber deployment as

soon as it occurs and does not always have data for all competing providers that have deployed fiber in a given area. *See id.* ¶ 17.

The data from these two sources are presented in Maps B, C, D, and E. Maps B provide a high-level view of the known competitive fiber that has been deployed in each of Verizon's 20 MSAs with the highest concentration of demand for high-capacity services. These maps plot three types of data in each MSA: the central offices that account for 80 percent of demand for high-capacity services in Verizon's region; the subset of those central offices in which competing providers have deployed known fiber; and the known fiber routes of competitive providers. These maps show that there is a strong correlation between the presence of competitive fiber and the offices in which demand for high-capacity services is concentrated. In particular, competing providers have obtained fiber-based collocation in an overwhelming majority of the central offices that are among those that account for 80 percent of Verizon's demand for high-capacity services, and the known fiber routes these providers have deployed are concentrated in these same wire centers.

Maps C show, for each of the 20 MSAs, the transport routes between wire center service areas where known competitive fiber is present. This does not mean to suggest there is fiber directly between each of these wire centers, but it does show where, in the Court's word, it is "possible" to establish connections between wire centers. This is so because when competitive fiber is present in a given wire center, it almost always connects to the CLEC's own fiber network, or the fiber network of another competing provider, and can therefore be used to reach any other wire center that also is reached by those competitive networks. *See, e.g.*, *Triennial Review Order* ¶ 361 ("Competing carriers generally use interoffice transport as a means to aggregate end-user traffic . . . by using dedicated transport to carry traffic from their end users'

loops, often terminating at incumbent LEC central offices, through other central offices to a point of aggregation."); *id.* ¶ 370.

The Commission also has recognized that when competing carriers provide transport between two or more wire centers, they do not necessarily connect those offices directly, but may also do so *indirectly* — for example, by using their own network or another carrier's network as an intermediary point. *See, e.g.*, *Triennial Review Order* ¶ 401 (competitive transport "do[es] not have to mirror the network path of the incumbent LEC," but may instead use more efficient arrangements, including routing traffic through the CLEC's "intermediate" facilities); 47 C.F.R. § 51.319(e) ("A [dedicated transport] route between two points (*e.g.*, wire center or switch 'A' and wire center or switch 'Z') may pass through one or more intermediate wire centers or switches (*e.g.*, wire center or switch 'X')").

Maps D and E reflect the known fiber routes in the metropolitan and downtown portions of Verizon's top 20 MSAs. The fiber routes shown in these maps provide further confirmation that there is a high correlation between competitive fiber deployment and the areas where high-capacity demand is concentrated. Here, too, however, while the information on known fiber routes is reliable, it is not necessarily complete and may not include all competitively deployed fiber. *See* Verses/Lataille/Jordan/Reney Decl. ¶ 17.

B. Competitors Are Capable of and Are Using Alternative High-Capacity Loop Facilities.

The extensive fiber networks that competing providers have deployed also are capable of and are being used to provide high-capacity loops to buildings in which there is concentrated demand for high-capacity services.

The Commission has recognized that "competitive LECs have deployed fiber that enables them to reach customers entirely over their own loop facilities," and that they have "built fiber

loops to buildings that carry a significant portion of the competitive traffic in certain MSAs." *Triennial Review Order* ¶ 298; *see also id.* ¶ 315. According to competing providers themselves, competitive fiber now provides connections to tens of thousands of office buildings. Attachment 9 provides the on-net buildings for the 16 CLECs for which such data are available. One of those CLECs — Time Warner Telecom — claims that, in some markets, its fiber network alone may connect to *more* buildings than BOC fiber. *See* E. Gubbins, *A Conversation with Time Warner Telecom's Mike Rouleau*, Telephony Online (Oct. 29, 2003) ("While [RBOCs] have lot[s] of fiber deployed, I don't know that they have more buildings connected than we do in all cases. In certain markets they may; in others they may not.").

Verizon has compiled information demonstrating that competing providers in Verizon's top-20 MSAs have connected their fiber to buildings where high-capacity demand is concentrated, just as these providers have done in markets throughout the country. Verizon has again obtained two sources of data that prove this, which are described in the Declaration of Judy Verses, Ronald Lataille, Marion Jordan and Lynelle Reney.

First, Verizon obtained third-party data identifying the office buildings that competing carriers are serving with fiber facilities. Verizon obtained the locations of these "lit" buildings from two sources that are generally relied upon in the industry: Universal Access, an independent broker of high-capacity services for telecommunications service providers and end-user customers, and GeoResults, Inc., an industry consultant to telecommunications equipment vendors and service providers. *See* Verses/Lataille/Jordan/Reney Decl. ¶¶ 19-30. GeoResults used Telcordia's industry-standard Common Language database to identify buildings in which CLECs have deployed fiber-enabled network equipment, which is an indicator that the CLEC is using fiber to serve customers in that building. *See id.* ¶¶ 20-23. As a broker of high-capacity

services, Universal Access maintains an extensive database on the availability of high-capacity facilities that is generally relied on in the industry, including the footprints of competitive fiber networks and the buildings served by those networks. *See id.* ¶¶ 27-29.

These data are presented in Maps A, D, and E. These maps identify the buildings that competing providers are serving with fiber facilities in each of Verizon's top-20 MSAs (identified on the maps as "CLEC-lit" buildings). Maps A provide these data from a bird's-eye view of the entire MSA; Maps D show the same data for the metropolitan portions of those MSAs; and Maps E show these data for the downtown areas in these MSAs. Each of these sets of maps shows that competing providers are using fiber to connect directly to office buildings throughout the markets in which they have deployed fiber, and that there are in fact hundreds of individual buildings already connected to CLEC fiber networks, with the heaviest concentration in the areas where there is the most significant demand for high-capacity services.

Second, Verizon obtained data that estimate the typical aggregate demand for high-capacity services in buildings served by competitive fiber. Verizon obtained this data from InfoUSA (formerly known as American Business Information or ABI) a leading provider of sales and marketing information to many different types of businesses. *See id.* ¶¶ 32-33. InfoUSA maintains a database on approximately 13 million businesses in the United States. *See id.* ¶ 33. Verizon obtained information regarding the size, nature, and address of the businesses in the 20 MSAs that Verizon evaluated. *See id.* ¶ 34. Using an industry model developed by Global Insight Inc. — a firm that provides a range of consulting and information services for many different industries — Verizon was able to use this information to estimate and correlate telecommunications demand with each individual building address in these 20 MSAs. *See id.* ¶¶ 37-42.

Attachment 10 contains a summary of this data. It is a chart demonstrating that competing providers have deployed fiber to the majority of buildings with high estimated telecommunications expenditures, including: 65 percent of buildings with greater than $6 million in aggregate telecommunications expenditures; 57 percent of the buildings with $4-$6 million in aggregate telecommunications expenditures; and 50 percent of the buildings with $2-$4 million in aggregate telecommunications expenditures. These data accordingly confirm that competing providers have chosen to target buildings where high-capacity demand is concentrated.

Finally, the data on competitive *fiber* do not provide the full extent to which alternative loop facilities are available, because fiber is not the only technology that competing carriers can use to provide high-capacity loop services. Both fixed wireless and cable networks provide additional competition in the supply of high-capacity loops.

Analysts report that 40 percent of large business (5,000+ employees), 29 percent of mid-sized businesses (500-5,000 employees), and 23 percent of small businesses (5-99 employees) are now using fixed wireless services for at least some high-capacity services. K. Burney, *et al.*, In-Stat/MDR, *Cash Cows Say "Bye-Bye": The Future of Private Line Services in US Businesses* at 19, Tables 9 & 10 (Dec. 2003) ("*In-Stat/MDR December 2003 Study*"). Competing providers may use fixed wireless to extend their existing fiber networks, and a number of wireline CLECs are now doing so, while other CLECs are currently experimenting with the technology. For example, on May 4, 2004, WilTel announced that it would use fixed wireless from Teligent to expand its networks in Tier 2 and Tier 3 markets to give customers "direct, on-net access to WilTel's robust services." WilTel Press Release, *Teligent to Provide Wireless Service Installation, Management* (May 17, 2004). Another CLEC, XO, is "rolling out its fixed wireless services directly and through other carriers that would resell it to end users." K. Henderson,

Fixed Wireless Round Two: Metro Wholesalers Step Back in the RF Ring, Phone+ (Feb. 2004), http://www.phoneplusmag.com/articles/421carrier01.html (quoting Mark Salter, VP, broadband wireless, XO). As Attachment 11 shows, other CLECs are using fixed wireless as well. Some of them — such as XO — already own their own fixed wireless spectrum. *See* XO, *Network Assets*, http://www.xo.com/about/ourstory/networkassets.html (XO owns "[f]ixed wireless licenses covering 95% of the top U.S. business markets."). As Attachment 12 shows, however, wireline CLECs also may obtain fixed wireless services from a number of third-party suppliers.

Each of the nation's major cable operators also is now actively pursuing large business customers. As Attachment 13 shows, these cable operators are providing high-capacity services to business customers both by deploying fiber to office buildings, and by extending their hybrid fiber-coax networks to business districts in order to provide cable modem services to business customers. For example, Time Warner is "delivering cost effective, high capacity access solutions to several Fortune 500 customers," while Cox has "launched . . . a new integrated marketing campaign to inform and drive demand among Enterprise and Fortune 500 companies." Time Warner Cable Commercial Services, *High Speed Internet Access*, http://www.twcbroadband.com/products/hsd.php; Cox Business Services Press Release, *Enterprise Presents Even 'Bigger' Opportunity for Cox Business Services in 2004* (Mar. 29, 2004). Charter cable is "[m]oving "'up-market' to compete in Enterprise RFP environment." D. Chang, EVP, Finance & Strategy, Charter Communications, presentation before the JP Morgan High Yield Conference (Feb. 2, 2004). According to analysts, 41 percent of large businesses, 32 percent of mid-sized businesses, and 44 percent of small businesses were using cable modem service for at least some high-capacity services. *See In-Stat/MDR December 2003 Study* at 19, Tables 9 & 10.

C. Competitors Are Capable of and Are Using Special Access To Compete Successfully.

Although competing providers are relying heavily on their own or alternative facilities to provide high-capacity services, they also are extending the reach of those facilities by using special access services purchased from incumbent local exchange carriers. Competing providers are in fact using special access to serve customers of all shapes and sizes, and in all geographic markets, which demonstrates that special access is a viable alternative for competing providers wherever there is demand for high-capacity services.

According to the most recent data available, more than 80 percent of Verizon's total special access revenues are generated from sales to other carriers, which then use the special access circuits to provide service to their own retail customers. *See* Verses/Lataille/Jordan/Reney Decl. ¶ 49. Competing carriers are using special access services in three main respects: to extend the reach of their own fiber networks or those of other alternative providers they may be using; to compete entirely through a resale mode, by reselling special access services directly to end users; or to transport switched traffic that is consolidated from many smaller customers. Some carriers are in fact using special access services exclusively (rather than UNEs) to reach their customers, or have stated that special access is all they need from ILECs. For example, Time Warner — one of the most successful competing providers in the country — recently announced that it "does not rely upon UNEs," because it earns the "majority of our revenue . . . exclusively through our own network facilities," and "instances where we need services from ILECs to connect our remote customers to our vast fiber network, we purchase those under special access tariffs or under agreements with the ILECs." Time Warner Telecom Press Release, *Time Warner Telecom Not Impacted by UNE Ruling* (June 10, 2004) (quoting Paul Jones, SVP, general counsel and regulatory policy, Time Warner Telecom).

Given that Verizon provides special access services to other carriers, it maintains comprehensive records of where it is providing that service, and to which end-user locations. In each of the 20 MSAs it studied, Verizon reviewed the billing records of a sample of carriers that included the two largest and three to six smaller competing providers that purchase high-capacity special access services from Verizon to identify the type of service they obtained, the location at which it was being used, and the identity of the customer that was being served. *See* Verses/Lataille/Jordan/Reney Decl. ¶¶ 46-48. These data show that competing providers are using special access services purchased from Verizon to serve customers of all types and sizes, and in all geographic areas where there is high-capacity demand, which demonstrates that special access is a viable alternative for competing providers everywhere.

Maps F show the locations where these representative carriers are using Verizon special access to serve customers in the metropolitan areas of each of Verizon's top 20 MSAs. Maps E provide a more detailed view of these data, focusing on the downtown areas of the top 20 MSAs. Both sets of maps also overlay the locations where competing carriers are purchasing special access with the locations of the buildings that competing providers are serving with fiber. These maps demonstrate that competing providers are using Verizon special access to serve customers in areas of high concentration, where competitive facilities already exist, as well as in areas where demand is less concentrated and competitive facilities have not yet been deployed.

Attachment 14 is a list of the types of customers that the sample competitors are serving using special access services purchased from Verizon. The list shows that competing providers are using special access to serve not only large enterprises, but also small businesses such as antique dealers, book stores, dry cleaners, florists, gas stations, and hair dressers, to name a few.

These data therefore demonstrate that special access is a viable competitive alternative for all kinds of customers with demand for high-capacity services.

Verizon's data also show that competing carriers are using high-capacity special access services much more extensively than UNEs. Of the high-capacity loops that competing carriers purchase from Verizon, nearly 93 percent of the DS-1 loops and more than 98 percent of the DS-3 loops are purchased as special access service. *See* Verses/Lataille/Jordan/Reney Decl. ¶¶ 50-51. Put another way, only 7 percent of the DS-1 loops and less than 2 percent of the DS-3 loops are purchased as UNEs. *See id.* Verizon's data also show 95 percent of the DS-1 loop and transport combinations that competing carriers purchase from Verizon are purchased as special access rather than as UNEs. *See id.* ¶ 54. These data are fully consistent with what competing carriers themselves have previously claimed about their use of special access. *See, e.g.*, AT&T, *Transport UNEs Are a Prerequisite for the Development of Facilities-Based Local Competition* at 10 (Oct. 7, 2002), *attached to* Ex Parte Letter from Joan Marsh, AT&T, to Marlene Dortch, FCC, CC Docket Nos. 01-338, *et al.* (Oct. 8, 2002) ("98% of AT&T's DS1 customer loops/EELs are leased from ILECs under their Special Access tariffs; only 2 percent are leased as UNEs").

CLECs have been successfully competing for all kinds of customers using special access by purchasing these special access services at deep discounts off the tariffed "base" rates for these services. Verizon offers significant discounts off of those base rates — on the order of 5 to 40 percent — to customers that enter into term commitments (ranging from 1 to 7 years, depending on the service and geographic area). *See* Verses/Lataille/Jordan/Reney Decl. ¶ 56. Verizon's data show that competing carriers are availing themselves of these discounted rates. On the whole, wholesale customers are purchasing special access services from Verizon at an average of approximately 35 to 40 percent off the base rates for these services. *See id.*

D. The Relevant Geographic Market Must Be No Smaller than an MSA

As discussed above, competing carriers are providing service *throughout* the MSAs in which they are competing, primarily in the downtown areas, where demand is most highly concentrated, but also in more far-flung areas, to the extent demand also exists in those locations. The evidence also shows that competitors are doing so using *both* alternative facilities and Verizon's special access. Verizon's maps show that this is occurring in each of the 20 MSAs in Verizon's territory in which special access demand is most heavily concentrated.

In light of this evidence, there is no basis on which to define the relevant geographic market for high-capacity loops and transport as each individual point-to-point route. *USTA II* requires that the Commission determine the appropriate market and that it must adopt "a sensible definition of the markets in which deployment" occurs, *USTA II*, 359 F.3d at 574. At a minimum, this is an entire MSA, given that competing carriers are providing service throughout the MSAs they have entered. The fact that competing carriers may not have deployed facilities on every single route within these MSAs is irrelevant, both because the Commission "must consider the availability of tariffed ILEC special access services," *id.* at 577, and also because it must consider "facilities deployment along similar routes when assessing impairment." *Id.* at 575. And the evidence here demonstrates that when both of these factors are taken into account, competing carriers have been able to able to provide high-capacity services throughout entire MSAs, wherever demand for those services exists.

Moreover, evidence demonstrates that there is no basis for an impairment finding in the 20 MSAs served by Verizon that have the largest demand for high-capacity services. Under no conditions could an unbundling rule be imposed in these areas either on an interim or permanent basis.

E. There Are Several Classes of High-Capacity Customers, Services, and Facilities For Which Competition Is Particularly Intense.

In addition to the fact that there is extensive competition in the provision of high-capacity loops and transport generally, there also are several classes of high-capacity customers, services, and facilities for which competition is particularly intense, and for which there also can be no finding of impairment.

By way of background, in *USTA II*, the D.C. Circuit reaffirmed its previous holding that the impairment inquiry must take a "nuanced" approach that analyzes whether competition is impaired in "specific markets or market categories." 359 F.3d at 574 (citing *USTA I*, 290 F.3d at 426). Accordingly, the Commission may not impose an unbundling obligation for a particular category of customers or services without first making an impairment finding with respect to that category. The D.C. Circuit has in fact twice affirmed the Commission's own conclusion that the standards in the Act are appropriately applied by "disaggregating the *impairment* issue, and in ordering unbundling only with respect to the *service* for which it found impairment." *Id.* at 592 (initial emphasis in original); *see also id.* ("service-by-service impairment analysis permissible") (citing *Competitive Telecommunications Ass'n v. FCC*, 309 F.3d 8, 12-13 (D.C. Cir. 2002)). By contrast, where the Commission has "failed to conduct the requisite impairment analysis," for specific categories of services or customers, the Court has reversed its determination. *Id.* at 575 (reversing unbundling requirements for use by providers of wireless service). The D.C. Circuit has squarely held that "competitors cannot generally be said to be impaired" in a particular market category or categories "where robust competition in the relevant market belies any suggestion that the lack of unbundling makes entry uneconomic." *Id.* at 592; *accord id.* at 576. And as demonstrated below, there are at least five specific categories of services or customers

where robust competition demonstrates that competing providers are not impaired without access to UNEs.

1. Large Enterprise Customers

Enterprise Customers Generally. Analysts typically define "large enterprise" customers as Fortune 1000 companies and large public institutions. *See, e.g.*, R. D. Lynch, *et al.*, Lehman Brothers, *Enterprise Telecom Services* at 3 (Nov. 11, 2003) ("*Lehman Enterprise Report*"); *see also* Declaration of Eric J. Bruno ¶ 3 ("Bruno Decl.") (Attachment 3). This is the most valuable segment of the telecom industry, representing $50 billion in annual revenues. *See Lehman Enterprise Report* at 3; Bruno Decl. ¶ 5. Large enterprise customers are major purchasers of high-capacity services. In Verizon's region, large enterprise customers account for more than 85 percent of total special access revenues purchased by end-user business customers. *See* Bruno Decl. ¶ 6.

Large enterprise customers often purchase most of their telecommunications services on a nationwide or global basis from a small number of primary service providers — in some cases, just one or two. *See id.* ¶ 8. Traditionally, local telephone companies have not been major players in this market segment, because they did not have the ability to meet all of the needs of these customers. In particular, the interLATA restriction historically precluded the Bell companies from providing interLATA services, which is a critical component of the package of services that large enterprise customers demand. The Bell companies have only recently begun to compete seriously for the nationwide and global business of large enterprise customers.

Notwithstanding the fact that Verizon and other ILECs have begun competing for large enterprise customers, competing providers continue to lead in the head-to-head competition for this customer segment. According to analysts, AT&T, MCI, and Sprint account for nearly half

of all revenues from large enterprise customers, *see Lehman Enterprise Report* at 15, and are the "primary" service provider for nearly three-quarters of large corporate accounts, A. Quinton, *et al.*, Merrill Lynch, *The Telecommunicator — WorldCom Survey Results — Industry Implications of Current Customer Thinking* at 2-3 (Feb. 6, 2003).

Moreover, competing carriers are serving large enterprise customers largely with their own facilities. AT&T tells investors that its own network "touches virtually all Fortune 1,000 Companies," and that its core network extends "all the way to the customer premises." David Dorman, Chairman and CEO, AT&T, presentation before the Credit Suisse First Boston Media and Telecom Week, at 6 (Dec. 11, 2003); AT&T News Release, *AT&T Introduces New Business Local Access Offer for Large Companies, Government Agencies* (Apr. 16, 2003). Royce Holland, the CEO of Allegiance, has stated that "[t]he large corporate enterprise market . . . is all but irrelevant in the debate over competition policy because *there are no bottleneck facilities*." *Allegiance CEO Urges Regulators to "Stay the Course" on Competition*, TR Daily (Dec. 4, 2003) (emphasis added). The Commission itself has found that large enterprise customers "provide a large incentive to suppliers to build their own facilities where possible, and carry these customers' traffic over their own networks." *Triennial Review Order* ¶ 129.

Packet-Switched Services. Just as competing providers dominate the provision of services to large enterprise customers generally, they are also the leading providers of high-speed packet-switched services that make up much of the demand of enterprise customers. *See* M. Bowen, *et al.*, Schwab SoundView Capital Markets, *AT&T Corp.* at 2 (Jan. 21, 2004) ("ATM and frame relay services constitute the majority of telecom spending by businesses."). Competing carriers do not need to purchase high-capacity transmission facilities as UNEs to provide high-speed packet-switched services, such as Frame Relay and ATM, but instead

provide these services by combining their own packet switching capabilities with high-capacity transmission facilities that either they supply themselves, obtain from an alternative supplier, or purchase as special access service from an incumbent LEC. *See, e.g.*, J. Hodulik, *et al.*, UBS, *Paying to Play: How Access Charges Determine Winners and Losers in Telecom Service* at 21 (Apr. 2, 2004) (explaining that IXCs "integrate[]" ILEC special access circuits into their "data service offering[s] for business customers"). AT&T, MCI, and Sprint control approximately *three quarters* of the market for Frame Relay and ATM services. *See id.* at 3. These three major carriers, along with a handful of other competitive carriers, are also the major providers of other specialized high-speed data services provided to business customers, such as IP Virtual Private Network ("IP-VPN") services. *See* H. Goldberg, In-Stat/MDR, *VPNs Take a New Look: Trends in the US IP VPN Services Market* at 16, Table 5 (Jan. 2004) (the five largest providers of IP-VPN service are AT&T, MCI, SAVVIS, Level 3, and Sprint; the only two BOCs in the Top 10 are Qwest and SBC, with a combined market share of only 3.4 percent).

2. Wireless and Long Distance

Wireless providers and long distance carries both use high-capacity services extensively to transport traffic within their networks, to connect their networks to other carriers, and in the case of long distance carriers to provide high-speed connections directly to large end users. Competition for both wireless and long distance services has thrived, even though providers of these services have not relied on UNEs.

Wireless. Prior to the *Triennial Review Order*, wireless carriers did not use UNEs at all, *see USTA II*, 359 F.3d at 575; they instead obtained transport facilities from alternative suppliers or purchased tariffed special access services from ILECs. *See, e.g.*, Comments of AT&T Wireless, *Notice, Request for Comments on Deployment of Broadband Networks and Advanced*

Telecommunications, NTIA Docket No. 011109273-1273-01 (NTIA filed Dec. 19, 2001) ("[W]ireless carriers expend significant sums to lease transport facilities from incumbent LEC special access tariffs."). The D.C. Circuit overturned the Commission's decision permitting wireless carriers to obtain UNEs for the first time for failing to undertake the requisite service-by-service impairment analysis. *See USTA II*, 359 F.3d at 575-577. The Court found that wireless carriers had not been impaired without access to UNEs in the past in light of the fact that there was a "rapidly expanding and prosperous market for wireless service." *Id.* at 576. The Court held that this evidence "clearly show[s] that wireless carriers' reliance on special access has not posed a barrier that makes entry uneconomic," and that there was accordingly no basis to find impairment. *Id.* at 575.

Since the Triennial Review, the use of wireless services has continued to expand.[2] The number of wireless subscribers has grown from 129 million to 157 million,[3] while wireless traffic has grown from 20 percent to 30 percent of all voice traffic.[4] Wireless also has grown

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[2] The growth of wireless services is addressed in greater detail in the other White Paper addressing competitive switching and accompanying support material that is part of this filing. *See Technological and Market Developments Since the Triennial Review Further Demonstrate that Competitors Are Not Impaired Without Access to Unbundled Mass Market Switching*.

[3] *Compare* Michael Balhoff, Managing Director, Telecommunications Group, Legg Mason, prepared witness testimony before the Subcommittee on Telecommunications and the Internet of the House Energy and Commerce Committee, Washington, DC (Feb. 4, 2004) (157 million wireless subscribers as of year-end 2003) *with Triennial Review Order* ¶ 53 (129 million wireless subscribers in mid-2002).

[4] Compare Eighth Report, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, 18 FCC Rcd 14783, ¶ 102 (2003) ("One analyst estimates that wireless has now displaced about 30 percent of total wireline minutes.") *with* L.F. Carvalho, Morgan Stanley, Dean Witter, Investext Rpt. No. 8285600, Wireless Services: Industry Outlook: Life After 50 — Industry Report at *5 (Nov. 28, 2001) (average of 339 monthly MOUs per wireless subscriber in 2001); *Triennial Review Order* ¶ 53 (129 million wireless subscribers in mid-2002); FCC, *Statistics of Communications Common Carriers* at

increasingly competitive with wireline, both for lines and minutes: the percentage of users giving up their landline phone has grown from 3-5 percent to 7-8 percent;[5] the number of wireless minutes has grown by 35-70 percent while wireline minutes have declined by 4-7 percent;[6] and wireless now accounts for approximately 43 percent of all long distance traffic.[7]

Long Distance. As the D.C. Circuit recognized, competing carriers have long provided long distance service successfully without access to EELs, *e.g.*, *USTA II*, 359 F.3d at 590, and there accordingly is "no evidence suggesting that [CLECs] are impaired with respect to the provision of long distance services," *id.* at 592. On the contrary, the Court emphasized that, in the context of long distance services in particular, "competitors cannot generally be said to be impaired by having to purchase special access services from ILECs, rather than leasing the necessary facilities at UNE rates, where robust competition in the relevant market belies any suggestion that the lack of unbundling makes entry uneconomic." *Id.*. The D.C. Circuit

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Table 5.8 (2001/2002 ed.) (4.4 trillion Dial Equipment Minutes; "two [dial equipment minutes] are counted for every conversation minute").

[5] *See Triennial Review Order* ¶ 445; *id.* ¶ 230; Adam Quinton, Managing Director & First VP, Co-Head, Global Telecom Services Research, Merrill Lynch, prepared witness testimony before the Subcommittee on Telecommunications and the Internet of the House Energy and Commerce Committee, Washington, DC (Feb. 4, 2004) ("an estimated 7% of telephone users only have a cell phone"); Michael Balhoff, Managing Director, Telecommunications Group, Legg Mason, prepared witness testimony before the Subcommittee on Telecommunications and the Internet of the House Energy and Commerce Committee, Washington, DC (Feb. 4, 2004) ("[W]hile it is clear that there is substitution whereby wireless-only customers may be 8% of the total consumer market today, it is admittedly difficult to calculate precise figures.").

[6] *See* D. Janazzo, *et al.*, Merrill Lynch, *The Next Generation VIII: The Final Frontier?* at 42, Table 33 (Mar. 15, 2004) (between year-end 2002 and year-end 2003, wireless minutes increased by 35 percent, while wireline minutes decreased by four percent; by year-end 2004, wireless minutes will have increased by 70 percent since year-end 2002, while wireline minutes will have decreased by seven percent during the same period).

[7] *See* Yankee Group News Release, *U.S. Consumer Long Distance Calling Is Increasingly Wireless, Says Yankee Group* (Mar. 23, 2004) (estimating that US households make 43 percent of their long-distance calls on wireless phones).

therefore noted that, on remand, it expected the Commission to "turn to the issue of impairment" specifically "with reference to long distance service," and anticipated that it "may well find none." *Id.*

Since the Triennial Review, competitors have continued to compete successfully in the long distance market without relying on UNEs, and there is no plausible argument that other carriers are entitled to UNEs for use to provide long distance services. Notwithstanding Bell Company entry into the market, AT&T, MCI, and Sprint provide 75 percent of the long-distance services sold to large business customers. *See* S. Flannery, *et al.*, Morgan Stanley, *Strong Showing for Bells in Annual Corporate Survey* at 32, Exh. 46 (June 22, 2004). In the consumer long distance market, prices are plummeting and packages of "unlimited" long distance service are becoming the norm.[8]

3. Enhanced Extended Links (EELs)

EELs are simply a combination of high-capacity loops and transport. Thus, EELs are not subject to unbundling for the same reasons as for high-capacity loops and transport generally. In particular, where there are alternative high-capacity loop and transport facilities available, competing providers can use these facilities as a substitute for EELs. Competing carriers also are

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[8] *See, e.g.*, J. Hodulik, *et al.*, UBS, *Sprint Announces Recombination: Putting It Back Together* at 5 (Mar. 1, 2004) ("Competitive pressures in the long distance market from traditional long distance operators and the Bells has resulted in sharp price declines and diminishing returns."); M. Rollings, *et al.*, Citigroup Smith Barney, *SBC Communications: Analyst Day Affirms Strategy to Trade N/T Margins to Improve L/T Prospects* at 3 (Nov. 13, 2003) ("LD is a commodity service on a stand-alone basis."); J. Bazinet, *et al.*, JP Morgan, *U.S. Telecommunications: The Art of War* at 83 (Nov. 7, 2003) (Consumer stand-alone long-distance voice is likely to "disappear over time as consumers move towards bundled services and long-distance voice becomes more of a vertical feature (often given for free) than a standalone business.").

capable of and are using special access as a substitute for EELs, and the Commission must consider this alternative in its impairment analysis.

The D.C. Circuit held that, with respect to EELs, just as with respect to specific services and markets, the "presence of robust competition in a market where CLECs use critical ILEC facilities by purchasing special access at wholesale rates . . . *precludes* a finding that the CLECs are 'impaired.'" *USTA II*, 359 F.3d at 593 (emphasis added). The Court found that where CLECs were competing successfully using special access services purchased from the ILECs, the Act "precludes" a finding that they would be impaired if they could not "convert" those circuits to UNEs. *Id.* The Court also recognized that it would create "anomalies" if CLECs that already were competing successfully using special access were "barred from access to EELs as unbundled elements," while other carriers entering the market would not be barred, and the Court therefore emphasized that "if history showed that lack of access to EELs had not impaired CLECs in the past, that would be evidence that similarly situated firms would be equally unimpaired going forward." *Id.*

Competing carriers' own conduct demonstrates that they are capable of providing (and are in fact providing) high-capacity services without access to EELs as UNEs, and the fact that special access may be priced higher than UNEs is irrelevant, because "the purpose of the Act is not to provide the widest possible unbundling, or to guarantee competitors access to ILEC network elements at the lowest price that government may lawfully mandate." 359 F.3d at 576. As the Supreme Court made clear in *Iowa Utilities Board*, the impairment standard is not satisfied simply because unbundled access would permit competitors to reduce their costs and earn higher profits. *See* 525 U.S. at 390.

First, as demonstrated above, competing carriers are extensively using special access to provide high-capacity services, and this includes loop-transport combinations that they purchase in the form of special access. Of the high-capacity circuits that competing carriers purchase from Verizon, nearly 93 percent of the DS-1 loops and more than 98 percent of the DS-3 loops are purchased as special access service, while only 7 percent of the DS-1 loops and less than 2 percent of the DS-3 loops are purchased as UNEs. *See* Verses/Lataille/Jordan/Reney Decl. ¶¶ 50-51. With respect to EELs specifically, 95 percent of DS-1 loop and transport combinations are purchased as special access rather than EELs. *See id.* ¶ 54.

Second, even those carriers who have purchased EELs first served customers for extended periods of time using special access before converting to EELs. One of Verizon's largest purchasers of special access services has waited an average of nearly 2 years, and in some cases more than 7 years, to convert its special access circuits to UNEs. *See id.* ¶ 55. A number of carriers that use special access services extensively have not converted any special access circuits to UNEs or have converted only a small fraction. For example, this same carrier has converted only a small fraction (1/30) of its special access circuits to EELs; another of Verizon's largest purchasers of special access services has not converted any of its circuits to EELs, nor have several other CLECs that use special access extensively. *See id.*

4. Entrance Facilities

The Commission has recognized that entrance facilities are particularly well suited to competitive supply, because they "often represent[] the point of greatest aggregation of traffic in a competing carrier's network, and such carriers are more likely to self-deploy these facilities because of the cost savings such aggregation permits." *Triennial Review Order* ¶ 367. The Commission also found that entrance facilities are "the most competitive type of transport;"

competitive deployment of these links is "pervasive;" and the price ILECs charge for these links "closely mirrors UNE rates." *Id.* ¶ 367 n.1122.

Verizon's data confirm these findings. These data show that competing providers have been steadily replacing entrance facilities they have obtained from Verizon with their own competitive transport. In 2003 alone, competing providers have performed such migrations for at least 20,000 entrance-facility circuits, and this trend continues. *See* Declaration of Mohit Patel ("Patel Decl.") ¶ 15 (Attachment 4). Verizon's data also show that, to the extent that competing providers continue to obtain entrance facilities from Verizon, they typically purchase special access rather than UNEs. Of the high-capacity entrance-facility circuits that carriers purchase from Verizon, approximately 96 percent are special access, while only 4 percent are UNEs. *See* Verses/Lataille/Jordan/Reney Decl. ¶ 52.

Finally, Verizon's data support the Commission's determination in the *Triennial Review Order* that it is inappropriate to require incumbent LECs to provide entrance facilities to competing carriers because "they are transmission facilities that exist *outside* the incumbent LEC's local network." *Triennial Review Order* ¶ 366 (emphasis in original). When a competitive carrier orders an entrance facility from Verizon, Verizon must design, engineer, and construct that facility to order. *See* Patel Decl. ¶ 6. Once the facility is constructed, it is dedicated to the use of the carrier that ordered it, and is not used by Verizon to provide service to its own end users. *See id.* ¶ 9.

Conclusion

In sum, the evidence demonstrates that, where demand for high-capacity service exists, competitive entry is possible without UNEs and, therefore, competitors are not impaired without unbundled access to high-capacity facilities. Competitors are capable of — and, indeed, are —

competing for high-capacity services using either their own facilities or a combination of competitive facilities and special access purchased from Verizon. Thus, the Commission may not impose unbundling obligations on high-capacity loops and transport as part of either interim or permanent rules.

ATTACHMENT 1

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

In the Matter of	)	
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	)	**CC Docket No. 01-338**
Implementation of the Local Competition Provisions of the Telecommunications Act of 1996	)	**CC Docket No. 96-98**
Deployment of Wireline Services Offering Advanced Telecommunications Capability	)	**CC Docket No. 98-147**

DECLARATION OF JUDY K. VERSES, RONALD H. LATAILLE, MARION C. JORDAN AND LYNELLE J. RENEY

1. My name is Judy Verses. My business address is 1880 Campus Commons Drive, Reston, Virginia 20191. I am Senior Vice President National Marketing and have worked for Verizon for twenty-one years, including positions in Sales and Product Line Management. My current responsibilities include marketing to all mass markets Consumer and Business customers, including retention and winback marketing, market intelligence, geographic segmentation, channel and business development, and market planning. In this capacity, I have information and knowledge relating to the third party sources of data Verizon has used to identify competitive local exchange carrier ("CLEC") fiber transport and loop facilities and to determine the correlation between customer telecommunication spending and CLEC deployment of fiber facilities as described specifically in paragraphs 15-44 of this declaration.

2. My name is Ron Lataille. My business address is 1095 Avenue of the Americas, New York City, NY 10036. I am Vice President – Financial Planning and Analysis Domestic Telecom Finance and have worked for Verizon for more than twenty years. My current responsibilities include managing Domestic Telecom's financial objectives; consolidation of total Domestic Telecom's financial results; revenue booking, analysis and reporting functions and implementation of standardized financial business processes and systems platforms; preparation of SEC reports; and developing contingency plans and setting budget targets and guidelines. In this capacity, I have information and knowledge relating to the sources of data described specifically in paragraphs 7-8 and 49-57 of this declaration.

3. My name is Marion Jordan. My business address is 1320 North Courthouse Road, Arlington, Virginia 22201. I joined Verizon in 1994 and am currently Vice President, Regulatory Compliance and Metrics Process Assurance within the Wholesale Markets organization. I am responsible for directing Wholesale activities in support of the FCC Triennial Review Order, state and federal regulatory matters, state and federal audits, metrics management and change controls. In this capacity I have information and knowledge relating to the data sources Verizon used to determine the extent to which competing carriers have been able to use Verizon's special access services to compete in providing customers with high-capacity services as described specifically in paragraphs 45-58 of this declaration.

4. My name is Lynelle Reney. My business address is 125 High Street, Boston, Massachusetts 02110. I am the Director of Collocation and have worked for Verizon for twenty years, including positions in Real Estate, Equipment Installation and Corporate Services. I currently oversee all functions related to collocation including application receipt and processing, collocation project management, and billing. I have knowledge of the facilities and processes

used by competitive local exchange carriers ("CLECs") collocating in Verizon Central Offices to interconnect with Verizon's networks and the physical inspections Verizon conducted of various central offices as described specifically in paragraphs 10-14 of this declaration.

5. The purpose of this Declaration is to provide an overview of the sources of data upon which Verizon has relied in determining: (i) where demand for high-capacity services is most concentrated in major metropolitan statistical areas ("MSAs") within Verizon's serving territory; (ii) the extent to which CLECs have self-provisioned high-capacity transport and loop facilities in those MSAs; (iii) how CLECs are using Verizon's special access services to extend the reach of their networks and to compete in providing high-capacity services to customers in those MSAs; and (iv) the extent to which CLECs have used Verizon special access services instead of UNEs for the high capacity loop and transport facilities they need to serve customers.

6. This Declaration addresses these general topics and the data sources upon which Verizon relied in six sections. *First*, Verizon focused its analysis on the 20 MSAs in Verizon's serving territory with the highest demand for high capacity special access services. *See infra* ¶¶ 7-8. *Second*, for those areas of highly concentrated demand within a given MSA, Verizon used two different approaches to determine where and the extent to which CLECs have self-provisioned high-capacity transport facilities. *See infra* ¶¶ 10-18. *Third*, for those areas of highly concentrated demand within a given MSA, Verizon determined where and the extent to which CLECs have self-provisioned high-capacity loop facilities, again using two sources of data. *See infra* ¶¶ 19-30. *Fourth*, Verizon determined that there was a correlation between CLECs' self-provisioning of high-capacity facilities to serve a given building and Verizon's estimate of demand for high-capacity services in a given building. *See infra* ¶¶ 31-44. *Fifth*, based on data for a sample of CLECs who purchase Verizon's special access services, Verizon

determined the extent to which CLECs are serving customers using special access services purchased from Verizon. *See infra* ¶¶ 45-48. *Finally*, based on an analysis of financial records and databases containing access line information, Verizon determined the extent to which CLECs were obtaining high capacity loop and transport facilities through Verizon's special access services instead of as UNEs. *See infra* ¶¶ 49-54.

I. Identification of MSAs With High Demand for Special Access Services

7. Verizon focused its analysis on those MSAs in which demand for high-capacity special access services (DS-1 and above) is greatest. Based on the reasonable assumption that demand for high-capacity facilities corresponds to demand for high capacity special access services (DS1 and above), Verizon identified these MSAs as follows. First, for each of the nearly 6,900 wire centers from which special access billing is generated, Verizon gathered billing records for its sales of high capacity special access services (DS1 and above) in 2003. Using this information, Verizon determined the contribution of each wire center to Verizon's revenues for high capacity special access services.

8. This review established that less than 8 percent of Verizon's wire centers (or approximately 532 wire centers) accounted for approximately 80 percent of the total billed revenue generated by Verizon's sales of high capacity special access services. Relying upon definitions of MSAs provided by the Office of Management and Budget, OMB Bulletin No. 03-04, *Revised Definitions of Metropolitan Statistical Areas, New Definitions of Micropolitan Statistical Areas and Combined Statistical Areas, and Guidance on the Uses of the Statistical Definitions in these Areas* (June 6, 2003), Verizon determined that these approximately 532 wire centers were located in 75 MSAs. Accordingly, Verizon concluded that there was greatest demand for high-capacity services in these MSAs, and it conducted the various analyses

described below for the 20 MSAs in its serving territory where high capacity demand is most heavily concentrated. In the maps of the MSAs that Verizon studied, each wire center that is one of the approximately 532 wire centers responsible for 80 percent of Verizon's high capacity special access revenues is shown in cross-hatching. *See* Maps B attached to Ex Parte Letter from Dee May, Verizon, to Marlene Dortch, FCC, CC Docket Nos. 01-338, 96-98, and 98-147 (June 24, 2004) (attaching presentation entitled "Competing Providers Are Successfully Providing High-Capacity Services to Customers Without Using Unbundled Elements" and attaching maps as Attachments 5A through 5T to the presentation, with 6 maps for each of 20 MSAs, referred to here as Maps A through F).

II. Identification of Areas Where CLECs Have Self-Provisioned Known Transport Facilities.

9. Verizon next identified areas where CLECs have self-provisioned known fiber transport facilities in the MSAs that it studied and the extent to which CLECs had self-provisioned transport facilities in the areas where wire centers generating the greatest demand for high capacity services are located. To accomplish this task, Verizon relied on data from two sources: (1) Verizon's own physical inspection of CLEC collocation and competitive alternative transport terminal ("CATT") arrangements in various Verizon central offices; and (2) information obtained from GeoTel Communications, Inc. ("GeoTel"), an outside consultant that is a leading provider of information related to telecommunications geography.

10. Verizon performed physical inspections of CLEC collocation and CATT arrangements to determine the extent to which CLECs had self-provisioned transport facilities terminating at those arrangements. It performed most of this inspection work from late June 2003 to August 2003 in anticipation of filing state cases in compliance with the Federal Communications Commission's Triennial Review Order. *See* Report and Order and Order on

Remand and Further Notice of Proposed Rulemaking, *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, 18 FCC Rcd 16978 (2003), *vacated in part and remanded, United States Telecom Ass'n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004) ("TRO").

11. Consistent with the standards required in the *Triennial Review Order*, Verizon conducted inspections in wire centers for which Verizon had determined there was a likelihood that two or more CLECs had self-provisioned fiber transport facilities and where demand for high capacity services was most concentrated. Verizon considered it likely that a CLEC had self-provisioned fiber transport facilities if one of the three following criteria were met: (1) the CLEC in its collocation application stated that it intended to bring its own fiber to the collocation arrangement; (2) the CLEC ordered a CATT arrangement in any of Verizon's wire centers (a CATT is an arrangement specifically designed for wholesale providers of high-capacity transport); or (3) the CLEC's collocation arrangement was installed prior to 1998 (*i.e.*, before CLECs were able to obtain high-capacity transport as an unbundled network element ("UNE")). In this manner, Verizon identified more than 480 wire centers in which two or more CLECs had likely self-provisioned high-capacity transport. Verizon physically inspected 433 of these wire centers.

12. In each of these 433 wire centers, Verizon physically inspected *all* collocation arrangements. Verizon performed these inspections pursuant to detailed written protocols. Inspectors were Verizon employees who were familiar with fiber-based collocation arrangements and "collocation arrangement to CATT" installations.

13. Inspectors checked each collocation facility in those Verizon wire centers to verify that there was powered equipment in place (*i.e.*, the collocation arrangement was

operational), and that the collocating carrier had non-Verizon fiber optic cable that both terminated at its collocation facility and left the wire center.

14. Verizon adopted rigorous controls to ensure the reliability of these data, including written procedures for each step of the inspection process, standard forms that were filled out by each inspector, signed statements by the inspectors verifying the accuracy and reliability of the information provided and the inspector's compliance with the written procedures, and signed statements by each inspector's supervisor confirming that the inspector had followed the appropriate procedures. A collocating CLEC was presumed to have deployed fiber in a given collocation arrangement *only* if, through this rigorous process of inspection and verification, its facilities were found to be operational and to have non-Verizon fiber. These results, however, will understate the extent of fiber deployment both because Verizon did not inspect all offices and because in some cases CLEC fiber will bypass Verizon's offices completely.

15. In addition to the data that Verizon obtained from its inspections of collocation arrangements, Verizon also used data from GeoTel to gather more information about where CLECs have self-provisioned high-capacity transport facilities. GeoTel, a leading provider of information related to telecommunications geography, performs telecommunications research and maps geographic information systems.[1] GeoTel maintains a "MetroFiber" data set that includes information regarding carriers and fiber routes for approximately 85 different carriers in more than 100 MSAs. GeoTel's MetroFiber data sets contain information regarding the locations of carrier collocation facilities, Internet exchanges (*i.e.*, privately or publicly owned internet network access points where Internet service providers exchange traffic), carrier networks, and carrier fiber routes in metropolitan areas. Verizon understands that much of this

[1] A geographic information system is a database system with specific capabilities for spatially referenced data, as well as a set of operations for analyzing that data.

information comes from the carriers themselves. All of GeoTel's data sets may be layered on digital street maps, digital elevation models, aerial photography, and three-dimensional imagery.

16. GeoTel's MetroFiber data is widely used in the telecommunications industry. The data provides telecommunications service providers within a given geographic area information about their competitive position and enables them to view their entire network, other carriers' assets, and current areas of market penetration. Some carriers, including Verizon, may use this information to determine the locations of wholesale providers of alternative high capacity transport from which they may purchase high-capacity transport facilities. In addition, businesses outside the telecommunications industry use this data to determine where to locate new buildings, the potential for economic development in a specific area, and the extent of communications services currently available in a particular geography.

17. As GeoTel itself recognizes, GeoTel's information regarding CLEC fiber routes, while extensive, is not comprehensive. GeoTel continually works to update its databases, and it provides Verizon with updates approximately every six months. Each of these updates contains significant amounts of new information. Thus, there is reason to believe that the GeoTel information understates, perhaps significantly, the extent to which CLECs have self-provisioned high-capacity transport facilities.

18. Verizon has mapped the data obtained from Verizon's wire center inspections and GeoTel to show central offices where CLECs have deployed identifiable known fiber transport facilities in each of the MSAs that Verizon studied. *See* Maps B.

III. Identification of Buildings Where CLECs Have Self-Provisioned Facilities.

19. Next, using information from two sources, Verizon has determined the extent to which CLECs have self-provisioned high-capacity loop facilities to buildings in the MSAs

Verizon studied. GeoResults, a consultant to vendors and service providers in the telecommunications industry, maintains a number of databases with information about various aspects of telecommunications operations in different geographical areas.

20. First, Verizon obtained information from GeoResults, a consultant to vendors and service providers in the telecommunications industry. Geotel maintains a number of databases with information about various aspects of telecommunications operations in different geographical areas.

21. GeoResults derived the information that it provided to Verizon from "Common Language" data products developed and maintained by Telcordia Technologies ("Telcordia"). Telcordia's Common Language database contains information about many network elements that have been deployed by service providers. The database includes information entered by carriers themselves on their network sites, transmission facilities, network equipment, circuits, switching entities, and carrier and manufacturer names. Telecommunications providers identify their network elements using Common Language coding.

22. Common Language coding enables the telecommunications industry to establish standards, rules, and identifiers that facilitate the efficient exchange of information among providers, customers, and suppliers about network facilities. The Common Language coding system was initially developed by Bell Laboratories in the 1960s to keep track of network elements in the Bell network. After the 1984 breakup of AT&T, in order to facilitate network interoperability and network management, telecommunications service providers continued to use Common Language coding information regarding their networks and to supply this information to Telcordia. Today, Telcordia's Common Language database products are recognized as an industry standard by numerous national and international telecommunications

standards-setting bodies. Telcordia reports that twenty-eight out of the top thirty CLECs, twelve hundred small telecommunications providers, and one thousand equipment vendors use Common Language products to characterize their networks.

23. GeoResults extracts information regarding CLEC networks that is contained in various Common Language database products. This information enables GeoResults to identify and locate buildings in the United States that are served by fiber-enabled network equipment. These buildings are flagged as "fiber-lit" buildings. GeoResults then analyzes the information associated with each piece of fiber-enabled network equipment to identify the telecom service provider and the bandwidth capacity of each piece of "fiber-enabled" network equipment. The information that GeoResults obtains from this evaluation is entered into its "GeoLit Plus Report" and its "GeoLit Node Report" for further analysis.

24. The GeoLit Plus Report is a unique summary of building locations to which carriers have provisioned fiber-enabled equipment. Using this report, it is possible to obtain information on more than 80,000 fiber-lit buildings throughout the United States, along with the identity of each service provider that has deployed equipment in each of these buildings. Accordingly, in the 20 MSAs Verizon studied, Verizon has been able to identify and locate many of the buildings in which CLECs have provisioned high-capacity equipment, as well as the names of the service providers that have deployed such equipment in these buildings.

25. The GeoLit Node Report is a listing of all fiber-lit buildings and the bandwidth capacity of any identified ring or piece of fiber-optic-enabled equipment in the building, as well as the name of the CLEC or incumbent carrier that provides that ring or fiber-optic equipment system. The bandwidth capacity of all identified ring or fiber-optic-enabled equipment systems in each fiber-lit building is stated in OC3, OC12, OC48, OC192 or dense wavelength division

multiplexing ("DWDM") terms. The GeoLit Node report provided Verizon with additional information regarding the characteristics of the high-capacity equipment deployed in various buildings located in the MSAs Verizon studied.

26. The GeoLit Plus and the GeoLit Node Reports contain useful information about the extent to which CLECs have self-provisioned high-capacity equipment in areas in which there is significant demand for high-capacity services. Because CLECs are not required to supply information regarding their networks to Telcordia for inclusion in the Common Language databases from which the GeoLit Plus and GeoLit Node Reports are prepared, and may in some cases choose not to provide that information, there is reason to believe that these reports likely understate, perhaps significantly, the extent to which CLECs have deployed high-capacity facilities to buildings in the top MSAs in the country.

27. Accordingly, Verizon supplemented the information derived from the GeoLit Plus and the GeoLit Node Reports with a second source of data extracted from a product provided by Universal Access Global Holdings Inc. ("Universal Access"). Universal Access is an independent buyer, seller, and manager of multi-carrier networks on behalf of telecommunications carriers, network service providers, cable companies, system integrators, and government agencies. As a broker of transmission services, its core competency is provisioning circuits among diverse network components. Universal Access is also a certificated carrier in all of Verizon's service areas. In support of these operations, Universal Access has developed a comprehensive database containing information on network infrastructure in the United States.

28. The Universal Access databases are prepared using network and market data from hundreds of sources from across the United States, including detailed network data reports made

by interexchange carriers, competitive access providers ("CAPs"), and CLECs themselves. The Universal Access database includes information relating to location, service level, hand-off, pricing, and fiber-routing attributes.

29. Universal Access has developed a product (called the "CAP/CLEC Building Product") that contains information regarding the footprint of CAPs and CLECs that have deployed fiber-enabled equipment in a given geographical area. The database contains the following information, on a building-by-building basis, for those buildings in which fiber-enabled equipment has been deployed: (1) address; (2) building name; (3) building carrier count (*i.e.*, the number of CAP and CLEC entities that reported a presence in each building); and (4) the local access and transport area code area, MSA, and wire center boundary within which the building is located.

30. Using the GeoLit Plus and the GeoLit Node Reports, as well as the Universal Access data supplied by GeoResults, Verizon was able to establish, for each of the MSAs that it studied, a list of buildings in which high-capacity fiber equipment has been deployed by CLECs. It is reasonable to assume that for the great majority of the buildings in which CLECs have deployed fiber-enabled equipment, they have also self-provisioned high-capacity loops. The extent to which CLECs have deployed high-capacity equipment (and presumably have self-provisioned high-capacity loops) is shown in Maps D and E.

IV. Correlation Between Telecom Expenditures and CLEC Facilities Deployment.

31. Verizon next sought to confirm that there was a correlation between actual CLEC self-provisioning of high-capacity loop facilities, determined using the methodology described above and demand for high capacity facilities, measured by telecommunications expenditures. To estimate the demand for high-capacity facilities in all buildings Verizon considered within a

given MSA, Verizon first established the locations of all buildings in the MSAs that it evaluated and obtained information regarding the characteristics of the tenants located in each of those buildings. Next, to determine the demand for high-capacity facilities in a particular building, Verizon used a model designed to estimate demand for high-capacity services based on the types of businesses in that building and their geographical location.

32. To establish the locations of buildings in a given MSA and the characteristics of the various tenants located in those buildings, Verizon relied on data provided by *infoUSA* Inc. ("infoUSA").[2]

33. infoUSA is a leading provider of sales and marketing support products for many different types of businesses. Among other things, infoUSA has developed a proprietary, copyrighted database containing information on approximately 13 million businesses that are located throughout the United States. The database contains information regarding businesses that produce, purchase, or provide goods and services. infoUSA uses more than 7,500 proprietary software programs to operate its data compilation and enhancement processes. The infoUSA database is designed to provide information on active business sites throughout the United States.

34. According to information provided by infoUSA, the company compiles its information through an annual review of telephone directories and other sources of information regarding new businesses (such as filings with Secretaries of State and county courthouses). infoUSA employees also annually contact each business for which the company maintains information to verify that the information collected from these sources of publicly available information is accurate and to gather additional information. Among many other things, for a given business, infoUSA is able to provide the following data: (1) company name; (2) address;

[2] infoUSA was formerly known as American Business Information or "ABI."

(3) phone number; (4) type of business (by standard industrial classification ("SIC") code); and (5) number of employees.

35. infoUSA has advised Verizon that infoUSA's proprietary data compilation software enables it to update, change, or verify approximately 1.5 million business listings every month. A quality assurance group checks input quality to ensure the information is 99 percent accurate from the original source. The company also uses state-of-the-art telephony software that greatly improves the accuracy of the verification process.

36. Using its proprietary software, infoUSA provided Verizon with, among other things, the address, SIC code, and number of employees for each business located within each of the MSAs Verizon studied. Using this information, Verizon was able to determine the addresses shared by multiple businesses, thereby establishing the addresses of the multi-tenant buildings within each MSA. Verizon also identified large single-tenant buildings. In addition, Verizon was able to compile a database of relevant information regarding the businesses located in each of the buildings that it studied. For example, for a specific building, Verizon obtained information regarding the number of businesses located in that building; the number of employees that work for each business; and the SIC codes that are assigned to each of the businesses.

37. Verizon then estimated the demand for high-capacity services associated with each of the buildings that it studied within each MSA. To do this, it employed a methodology developed by Global Insight, Inc. ("Global Insight").[3]

38. Global Insight is a firm that provides a range of consulting and information services for many different industries around the world, including the telecommunications

[3] Global Insight was formed through the merger of two economic and forecasting firms, Data Resources Inc. ("DRI") and Wharton Econometric Forecasting Associates ("WEFA"). It began operating under the name "Global Insight" in October 2002.

industry. In simple terms, the model developed by Global Insight has enabled Verizon to estimate the demand for high-capacity services generated by each of the tenants of the multi-tenant buildings in the MSAs that Verizon evaluated, based on those tenants' businesses and locations.

39. The process that Global Insight uses to model a given tenant's demand for high-capacity loops begins with an initial estimate, at the national level, of spending by different industries for different types of telecommunications services. This initial distribution is prepared using forecasts of total spending, on an industry-wide basis, for various telecommunications services. The data that is used to make these forecasts comes from the Federal Communications Commission; the United States Telecom Association; the Cellular Telecommunications Industry Association; the MultiMedia Telecommunications Association; and the United States Bureau of the Census. These total spending estimates are then further refined, using a statistical analysis that is part of Global Insight's Industry Analysis Service, to generate an estimate, on a national level, of total spending for various types of telecommunications services and products for every industry assigned a 4-digit SIC code.

40. These industry-by-industry estimates of national demand are then further enhanced using more detailed state- and county-level data on telecommunications spending. Through a series of iterative calculations, adjustments are made to the initial nationwide estimates to generate a picture of demand for various telecommunications services and products, on an industry-by-industry basis and at a localized level.

41. Thus, the Global Insight model is capable of estimating demand for a variety of telecommunications services and products, including demand for access lines. In estimating demand for access lines, the Global Insight model segments the analysis into demand for

standard (switched) and high-capacity (non-switched) access lines. Its methodology assumes that those industries that use telecommunications services, telecommunications equipment, and information technology more intensively will also be the most intensive users of high-capacity access lines.

42. The modeling process results in a detailed "top-down" and "bottom-up" view of telecommunications products and services usage — including demand for non-switched, high-capacity service lines measured in terms of the number of lines installed — by business segments and geographic areas. Using Global Insight's modeling methodology, it is possible to evaluate demand at the national, state, MSA, county, and wire-center levels. The data and forecasts typically cover five historical years, the current year, and five forecast years.[4]

43. Using the information from infoUSA on the occupants of each of the buildings that Verizon studied, as well as the demand estimates generated for those occupants by Global Insight's model, Verizon was able to estimate, on a building-by-building basis, demand for the high-capacity lines for each of the multi-tenant buildings in a given MSA.

44. Verizon has charted this data compared with data reflecting whether the building is lit by CLEC fiber. *See* Attachment 10.

V. Selected CLEC's Use of Verizon Special Access to Serve Customers.

45. Verizon also determined, in each of the MSAs that it studied, the extent to which a sample of competing carriers have been able to use Verizon's special access services to compete in providing customers with high-capacity services.

46. To make this determination, Verizon began with a review of its December 2003 billing records to determine the carriers to which it had sold high-capacity circuits (*i.e.*, DS1,

[4] The Global Insight model can also be used to assess demand for the residential segment, as well as demand by both the business and residential segments for wireless telecommunications services.

DS3, or synchronous optical networking ("SONET") facilities).[5] Next, from this information, Verizon identified a sample of at least 11 CLECs that it determined rely on Verizon's special access services to provide high-capacity services to end users. All of these CLECs are significant purchasers of special access services. Some of these CLECs are larger carriers that provide high-capacity services both through the use of their own facilities or a combination of their own facilities and special access services (and to a lesser extent UNEs), whereas others provide such services exclusively (or virtually exclusively) through the use of Verizon's special access services.

47. From its billing records as of the last billing period in February 2004, Verizon obtained information regarding the high-capacity DS-1, DS-3, and SONET circuits that these purchasers of Verizon special access services use to provide services. Verizon obtained the following information for each circuit: (1) carrier code; (2) description of high-speed service (*e.g.*, DS1, DS3, or SONET); (3) serving wire center common language location identifier ("CLLI") code; (4) end-user's name; and (5) end-user address. Verizon also had information that allowed Verizon to obtain the central office address based on the CLLI code.

48. In each of the MSAs it studied, Verizon mapped information regarding the location of end users served by 3 to 8 selected carriers using Verizon's special access services. Significantly, the information included in these maps is limited to those special access circuits for which Verizon was able to identify a customer address from its billing records. In many cases, Verizon's data showed that CLECs had purchased a special access circuit, like a DS-3, to a central office, but did not provide a corresponding end user address for the circuit, suggesting

[5] Voice grade, wide-area telephone service, and digital data services were not included in this review. High-capacity services were identified using the service code modifier of circuit identification (where available), circuit class of service universal service order code (where available), billing account number, and class of service description.

that the circuit may in some cases terminate at the central office. These services may include circuits terminating in a central office for a collocation POP/ACTL, Fast Packet switch, muxed or channelized facility for special access riders, facilities requiring switched trunk riders, or a cross-connect service between 2 channelized facilities in the same central office. Verizon did not attempt to capture this use of its special access services, but instead mapped only that data that showed a single DS1 or DS3 circuit extended to an end user's premises. The maps, therefore, probably understate significantly the extent to which CLECs are using special access services to provide high-capacity services. This does mean, however, that each circuit mapped included a DS-1 or DS-3 loop to an end user's location that is purchases as special access. The majority of the high capacity loops that are purchases as special access are DS-1s.

VI. Competitor Use of Special Access Services Instead of UNEs for High Cap Facilities.

49. Competitors make extensive use of Verizon's special access services to serve their own customers. More than 80 percent of Verizon's total special access revenues are generated from sales to other carriers. Accordingly, Verizon next analyzed the extent to which competitors use Verizon's special access services instead of UNEs for the high capacity loop and transport facilities they need to serve customers.

50. To determine the percentage of DS-1 loops competitors purchased through Verizon's special access services compared with DS-1 loops purchased as UNEs, Verizon obtained, from a database containing information on access lines, unit counts for special access DS-1 channel terminations (the special access term for loops), UNE DS-1 loops, UNE DS-1 EELs, and UNE DS-1 entrance facilities in service as of March 2004. Verizon added the total number of UNE components and then divided that by the total number of DS-1 loops purchased as special access to determine the ratio of DS-1 UNE loops to DS-1 special access loops.

Verizon found that 93 percent of the DS-1 loops purchased by competitors were purchased through Verizon's special access services, while only 7 percent of the DS-1 loop facilities competitors purchased consisted UNEs.

51. To determine the percentage of DS-3 loops competitors purchased through Verizon's special access services compared with DS-3 loops purchased as UNEs, Verizon obtained, from the same database and for the same time period, unit counts for special access DS-3 end user channel terminations and UNE DS-3 loops and DS-3 EELs. Verizon added the total number of UNE components (loops and EELs) and then divided that by the total number of DS-3 loops purchased as special access to determine the ratio of DS-3 UNE loops to DS-3 special access loops. Verizon found that 98 percent of the DS-3 loops purchased by competitors were purchased through Verizon's special access services, while only 2 percent of the DS-3 loop facilities competitors purchased were purchased as UNEs.

52. Verizon next determined the percentage of entrance facilities purchased from Verizon using special access services compared to entrance facilities purchased as UNEs. Verizon again extracted from its access line database March 2004 in service unit counts for special access DS-3 channel terminations between carrier POPs and Verizon central offices (entrance facility equivalents), and UNE DS-3 entrance facilities. For New England states, where there is no separate rate element for UNE entrance facilities, Verizon obtain information on UNE entrance facilities from its Regional CABS Reporting System. Verizon added the total number of UNE entrance facilities from each of these databases and divided by the total number of entrance facilities purchased through Verizon's special access services to obtain the percentage of entrance facilities purchased as UNEs. Verizon determined that approximately 96

percent of the entrance facilities purchased were purchased as special access compared with 4 percent purchased as UNEs.

53. Finally, Verizon sought to determine the percentage of loop and transport combinations purchased as special access compared to EELs. Verizon obtained from its access line database March 2004 in service unit counts for DS-1 EEL IOF. To obtain the special access equivalent to these EELs, Verizon obtained from its Carrier Access Revenue Data system ("CARD") March 2004 in service unit counts for special access DS-1 interoffice circuits and multiplexing arrangements. Verizon then made the following adjustments to this data.

54. In the East, fixed mileage units were extracted for DS-1 and Facilities Management Service ("FMS") DS-1s. Since FMS tracking codes include both DS-0 and DS-1 (all on a DS-0 equivalent basis), DS-0 units were removed by subtracting the FMS 0/1 multiplexing arrangements to obtain a reasonable estimate of the FMS DS-1 units. The remaining units were converted to DS-1 by dividing by 672 channels. In the West, interoffice transport is billed on a channel termination basis. Although most circuits are assumed to have 2 channel terminations per circuit, due to meet point billing arrangements, Verizon assumed a conversion factor of 1.7. Thus, the West DS-1 units were divided by 1.7 in order to convert to DS-1 circuits. Finally, to properly compare EELs to special access "EEL-like" circuits, the special access circuits needed to be adjusted to be comparable to point-to-point circuits. Accordingly, the 0/1 multiplexing arrangements were subtracted from the DS-1 units, again a reasonable proxy for these units. The EEL IOF circuits then were divided by the adjusted special access circuits to determine the ratio of UNE to special access EELs. Based on this data, Verizon determined that 95 percent of DS-1 loop and transport combinations are purchased as special access as opposed to EELs.

55. Even those carriers who have purchased EELs from Verizon first served customers for extended periods of time using special access before converting to EELs. One of Verizon's largest purchasers of special access services has waited an average of nearly 2 years, and in some cases more than 7 years, to convert its special access circuits to UNEs. A number of carriers that use special access services extensively have not converted any special access circuits to UNEs or have converted only a small fraction. For example, this same carrier has converted only a small fraction (1/30) of its special access circuits to EELs; another of Verizon's largest purchasers of special access services has not converted any of its circuits to EELs, nor have several other CLECs that use special access extensively.

56. Few wholesale customers that purchase special access service from Verizon pay the tariffed "base" rates for these services — that is, the standard rates that apply to customers that do not qualify for any volume or term discounts. Verizon offers significant discounts off of those base rates — on the order of 5 to 40 percent — to customers that enter into term commitments (ranging from 1 to 7 years, depending on the service and geographic area). Competing carriers are availing themselves of these discounted rates. On the whole, wholesale customers are purchasing special access services from Verizon at an average of approximately 35 to 40 percent off the base rates for these services.

57. This concludes our declaration.

I hereby certify, under penalty of perjury, that the foregoing is true to the best of my knowledge, information, and belief.

Executed on June 15, 2004

Judy K. Verses

I hereby certify under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

Executed on July 1, 2004

Ronald H. Lataille

Ronald H. Lataille

I hereby certify under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

Executed on July 1, 2004

Marion C. Jordan

Marion C. Jordan

I hereby certify under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

Executed on June 30 2004

Lynelle J. Reney

Lynelle J. Reney

ATTACHMENT 2

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

In the Matter of	)	
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	)	**CC Docket No. 01-338**
Implementation of the Local Competition Provisions of the Telecommunications Act of 1996	)	**CC Docket No. 96-98**
Deployment of Wireline Services Offering Advanced Telecommunications Capability	)	**CC Docket No. 98-147**

DECLARATION OF CLAUDIA P. CUDDY

1. My name is Claudia Cuddy. I am the Vice President, Engineering and Planning, for Verizon's Network Services Group. I am responsible for domestic and international networks operated and used by Verizon long distance affiliates. I have twenty-five years experience with Verizon or its predecessors in network engineering, network planning, SS7 implementation, local number portability, capacity management, and central office engineering.

2. The purpose of this declaration is to describe Verizon's experience in obtaining high capacity facilities to serve customers in markets outside of Verizon's traditional franchise serving territory. As discussed more fully below, Verizon has determined that, in these areas of highly concentrated demand, one or more CLEC providers are readily able to provide access facilities that allow Verizon to provide high-capacity services to its customers and that ILEC facilities (unbundled or not), therefore, are not necessary to serve customers in those markets.

3. In the summer of 2003, Verizon made a business determination to expand its operations into more than 30 out-of-franchise locations.[1] Verizon decided to enter into strategic agreements for high-capacity local access circuits between customer locations and Verizon points of presence ("POPs") in these targeted areas. To fulfill Verizon's access requirements, Verizon sought proposals from competitive local exchange carriers and competitive access providers offering access services in each of these markets. Verizon provided a forecast of its future need for access lines in the designated areas and asked these non-ILEC carriers to submit bids to provide Verizon with local access circuits in one or more of the areas that Verizon had targeted, including information on pricing, geographical, technical, and operational information for services ranging from DS-1 access circuits through OC-192 entrance facilities for various term commitments (typically 1, 2, 3, or 5 years).

4. With respect to geographical information, Verizon asked the bidding carriers to supply (a) a list identifying all customer buildings on their networks; (b) a list of the services available in each building; (c) a description of the way in which the carrier managed capacity in the building, including the way in which it monitored fill-rate, the conditions under which the carrier would add capacity, and the length of time for adding such capacity; (d) a description of the building type (*i.e.*, whether it was a carrier hotel, an ILEC central office, a supplier building, or a commercial building); (e) information regarding the bidding carrier's policy for extending fiber into a building that is off-network, including the cost and timeframe for doing so; and (f) an acknowledgement that the bidding carrier would periodically update information regarding the buildings to which it provided service.

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[1] The targeted regions included a number of markets in California; Texas; Florida; North Carolina; Ohio; Connecticut; the Midwest; the Southwest; the South; and the Pacific Northwest.

5. With respect to pricing, Verizon specified that its goal was to develop a simplified pricing scheme in providing local access circuits to its customers. Accordingly, it asked carriers to supply a single pricing schedule applicable to all locations for which the carrier had submitted bids, although Verizon specified that these carriers could provide different pricing schedules for on- and off-network locations; different schedules for different geographic areas; and/or tiered pricing schedules based on mileage or volume.

6. Verizon received proposals from a number of carriers, and completed its analysis of the responses in late 2003. In evaluating the proposals, Verizon considered four key selection criteria: (a) the availability of local access facilities in each market; (b) pricing; (c) the bidding carrier's ability to provide interconnection at the Verizon POP; and (d) the bidding carrier's ability to meet Verizon's operational and provisioning requirements.

7. In evaluating a bidding carrier's geographic coverage, Verizon mapped the coverage that would be provided by that carrier, identifying the locations in which each supplier had fiber facilities into a building. It then evaluated the carrier's facilities in light of the locations of Verizon's actual and potential enterprise customers; Verizon Wireless switches, and other strategic interconnection points within each market. Its goal was to identify which suppliers had the most extensive coverage in a given market with respect to these various types of facilities.

8. In evaluating pricing, Verizon compared the bidding carriers' prices for on- and off-network circuits. It also compared these prices against existing tariff rates in all of these locations. Verizon developed a methodology that enabled it to estimate the rates for services it would need anywhere in each targeted location, and it used that tool to analyze the competitiveness of each supplier's prices.

9. In evaluating a bidding carrier's technical capabilities, Verizon evaluated the carrier's ability to connect with the Verizon POP at a certain speeds; its ability to support off-network optical services; and its overall network resiliency. Similarly, in evaluating a bidding carrier's operational capabilities, Verizon determined that the carrier's provisioning, billing, and customer support services complied with Verizon's standards.

10. After reviewing the proposals in light of these four considerations, Verizon selected a primary and secondary vendor in each location that either could supply all of the facilities necessary to meet Verizon's needs or was in a position to obtain the necessary facilities themselves from other providers.

11. As a result of this evaluation, Verizon was able to draw a number of significant conclusions with respect to the ability of non-ILECs to provide access services in Verizon's out-of-franchise areas. *First*, for *all* of the locations that Verizon evaluated, there was at least one viable CLEC provider capable of providing strong coverage in areas of highly concentrated demand (*e.g.*, downtown metropolitan areas, where there is high demand for telecommunications services such as carrier hotels, LEC central offices, large office buildings, and office parks). *Second*, in the larger locations that Verizon evaluated (*e.g.*, locations in which aggregate estimated annual spending on telecommunications networks exceeded $630 million annually[2]), there were at least two viable CLECs that were roughly equal in their ability to provide access services in areas of highly concentrated demand. Smaller CLECs also provided significant coverage in most of these larger areas. *Third*, even in many smaller locations, there were

[2] Verizon based these estimates using a methodology called "AENCE" (Annual Estimated Network Communication Expenditure). This methodology is an end-user expenditure model which includes all components of network communications; voice and data, wireline and wireless, and long distance over both public and private networks. AENCE does not include sales or service revenue on CPE, data products or any other type of equipment sales. AENCE also does not include consulting services, revenue derived from outsourcing, or most advanced IP telephony products.

frequently two CLECs that provided strong coverage in areas of highly concentrated demand. *Fourth*, in all of the locatoins that Verizon evaluated, at least one CLEC — and frequently more than one CLEC — had self-provisioned high-capacity loop and transport facilities and provided coverage comparable to that offered by the ILEC. *Fifth*, in almost all of the locations that Verizon evaluated, the prices offered by the CLEC providers were competitive with those offered by the ILEC for comparable services. *Finally*, Verizon determined that no technical or operational impediments were presented by purchasing access services from CLECs.

12. As a result of this evaluation, Verizon has chosen primary and secondary carriers to provide it with local access services. In *all* of the out-of-franchise areas that it has evaluated, Verizon determined that a CLEC was capable of meeting its needs for local access circuits, and it has chosen a CLEC to be either the primary or secondary carrier. In addition, in several areas, Verizon has selected CLECs as both the primary and secondary sources of local access services.

13. Verizon currently provides high capacity services to 500 large business customers in six out-of-region states using a combination of its own facilities, non-ILEC fiber facilities obtained through commercial arrangements, and ILEC special access.

14. This concludes my declaration.

I hereby certify under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

Executed on July 1, 2004

Claudia Cuddy

ATTACHMENT 3

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

In the Matter of	)	
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	)	**CC Docket No. 01-338**
Implementation of the Local Competition Provisions of the Telecommunications Act of 1996	)	**CC Docket No. 96-98**
Deployment of Wireline Services Offering Advanced Telecommunications Capability	)	**CC Docket No. 98-147**

DECLARATION OF ERIC J. BRUNO

1. My name is Eric J. Bruno. I am the Vice President, Product and Portfolio Management, Enterprise Solutions Group, for Verizon. In this role, I am responsible for product management, portfolio management, offer planning and development, lifecycle management, forecasting, and market program prioritization, for all of the products and services Verizon offers to its largest commercial and government customers. Previously, I was the Vice President, IP Offer Management, Enterprise Solutions Group, for Verizon. In this role, I was responsible for Internet Protocol ("IP") offer planning and development, lifecycle management, forecasting, pricing and implementation. I have more than fifteen years of experience in the communications industry with significant assignments in business market strategy, competitive planning and response, market management, large business sales, and long distance.

2. The purpose of my declaration is to describe the provision of telecommunications services to large enterprise customers and Verizon's experience in competing for these

customers, which are considered among the most valuable retail segments of the telecommunications industry. The market for these customers is highly competitive, and thus far Verizon has had limited success competing against the more dominant, but less regulated, traditional long distance carriers. In Section I, I describe the characteristics of large enterprise customers and the telecommunications services they purchase. Among other things, I explain that large enterprise customers are the largest retail consumers of high-capacity services. In Section II, I describe how telecommunications service providers serve large enterprise customers. I explain that, because large enterprise customers are typically concentrated in major metropolitan areas and business parks, yet often maintain many geographically dispersed offices, to win these customers' business it is often necessary to be able to offer these customers packages of services that provide end-to-end connectivity throughout the country. I further explain that, because no one telecommunications provider owns facilities that are capable of serving all the needs of these customers, it is common for carriers to provide service by combining their own networks and services with those of other providers. In Section III, I explain that, due to the characteristics of large enterprise customers, and to various regulatory restrictions, Verizon has traditionally had difficulty serving these customers and to date has achieved very limited success. The provision of telecommunications services to enterprise customers is instead dominated by competing carriers, particularly the three major incumbent long-distance carriers – AT&T, MCI, and Sprint.

I. Characteristics of Large Enterprise Customers.

3. Verizon defines large enterprise customers to include large commercial, institutional, and governmental entities, such as Fortune 1000 companies; universities and financial concerns; and various entities of federal, state, and local governments.

4. Large enterprise customers rely heavily on telecommunications services to perform their own mission-critical applications. Large enterprise customers use multiple telecommunication services, which may include local and long distance voice service; ATM, Frame Relay, or other packet-switched data services; dedicated private lines; Wide Area Network ("WAN") services; wireless services; data backup, storage, and retrieval services; and provisioning and maintenance services for telecommunications equipment.

5. Large enterprise customers spend very large amounts of money on telecommunications services and are, therefore, considered the most valuable segment of the telecommunications industry.

6. Because of the amount of telecommunications traffic large enterprise customers generate and because of their need for the most reliable and sophisticated services, large enterprise customers rely heavily on dedicated high-capacity telecommunications services. In Verizon's experience, large enterprise customers are in fact the primary retail purchasers of high-capacity services among Verizon's retail customers. For example, large enterprise customers now account for 87 percent of the high-capacity special access revenues that Verizon provides on a retail basis.

7. Large enterprise customers also require telecommunications services that provide end-to-end connectivity among various locations throughout the country or the world. This is due to how large enterprise customers set up their corporate operations. Large enterprise customers tend to locate the headquarters of their operations in densely populated metropolitan areas and commercial districts. As a result, the greatest concentrations of enterprise customers are situated in the downtown business districts of major cities. In addition, because of their size, large enterprise customers often have satellite locations or branch offices located in major

metropolitan areas and commercial districts throughout the United States (and in many cases around the world). These satellite locations and branch offices may be located close to an enterprise customer's main office or facility, or hundreds or thousands of miles away from it. A large enterprise customer's satellite locations and branch offices may operate as extensions of the enterprise customer's core business or may serve as secondary locations in the event that a power interruption or major disaster threatens to disrupt the activities of the main office. Whatever the case may be, these satellite locations and branch offices tend to generate large volumes of traffic on their own and, therefore, often require dedicated high-capacity telecommunications facilities.

8. Because large enterprise customers require sophisticated high-capacity services that provide end-to-end connectivity across broad geographic areas, large enterprise customers often seek one or two primary telecommunications service providers that are capable of serving all of their telecommunications needs. This enables the large enterprise customer to shift the burden of constructing and operating a far-flung network to the carrier while creating a single point of accountability for the customer. Large enterprise customers often employ their own internal telecommunications specialists to evaluate, select, and manage their telecommunications vendors and to negotiate contracts to obtain the fastest, most reliable service for the lowest costs.

II. How Telecommunications Carriers Serve Large Enterprise Customers.

9. In order to become a primary service provider for a large enterprise customer, a telecommunications carrier must be able to provide the full range of sophisticated telecommunications services that large enterprise customers require, including end-to-end connectivity among these customers' various locations, and it must be able to do so while ensuring high service quality service and reliability at competitive prices.

10. No telecommunications carrier in the United States, including Verizon and the other Bell Operating Companies, has ubiquitous high-capacity telecommunications facilities that are capable of serving all the needs of large enterprise customers. As a result, Verizon and other telecommunications carriers must serve large enterprise customers by piecing together networks from multiple sources and then combining these various components together to form an integrated whole.

11. The first step in serving a large enterprise customer is to provide connectivity between the customer's premises and the telecommunications carrier's network (its point of presence ("POP"), fiber ring, or serving wire center). Telecommunications carriers provide these connections using their own high-capacity facilities or high-capacity facilities that they obtain from other providers. Many competing carries have deployed their own high-capacity fiber facilities in the metropolitan areas and business parks where large enterprise customers tend to be concentrated and directly to the office buildings that house these customers. A telecommunications carrier also may obtain high-capacity facilities from the local incumbent LEC by purchasing special access service under tariffed volume and term discounts.

12. Next, it is necessary to connect a large enterprise customer's main office to its branch offices or to other distant locations. Here, too, the telecommunications carrier may either use its own facilities or partner with other telecommunications carriers or suppliers. It may also purchase special access services from incumbent LECs under tariffed volume and term discounts.

III. Competitors Dominate The Provision of Service to Large Enterprise Customers.

13. Verizon has traditionally had difficulty serving enterprise customers and to date has achieved very limited success. The provision of services to enterprise customers has instead been dominated by competing carriers, in particular the three incumbent long-distance carriers – AT&T, MCI, and Sprint.

14. Historically, Verizon has not been a major competitor in the provision of service to large enterprise customers, either within Verizon's own region or outside its region. This was due principally to the fact that Verizon had generally been precluded from providing services on an interLATA basis. As discussed above, large enterprise customers generally require integrated end-to-end services, which often contain an interLATA component. Since Verizon could not, until recently, offer interLATA transport between large enterprise customer premises in one area of its serving territory (New York City for example) and the customers' satellite offices or other locations in another part of its serving territory (Baltimore, for example), Verizon could not provide the majority of the high capacity services, such as end-to-end high capacity private line, ATM, or Frame Relay services, that large enterprise customers require. Verizon was likewise precluded from providing interLATA services that originated in its region and terminated at points outside its region (Chicago, for example).

15. Because Verizon has traditionally been impaired in competing for large enterprise customers, these customers instead turned to competing carriers. The three incumbent long-distance carriers – AT&T, MCI, and Sprint – have been particularly successful in serving large enterprise customers, and remain the dominant providers in the provision of these services today. There are also a number of other competing carriers that have been very successful in serving enterprise customers.

16. In the wake of obtaining authority to provide interLATA services, Verizon began competing for large enterprise customers. Because of the need for national and international communications by these customers, even small gaps in coverage resulted in a significant competitive disadvantage. As a result, Verizon could not compete seriously for such business until it had received authority to provide long distance service in *all* of its service territories, just last year. Even today, however, Verizon still is subject to burdensome regulations that its competitors do not face. In particular, Verizon is subject to various requirements to file tariffs and cost-support information for high-capacity services. In addition, Verizon uniquely has, to date, not been eligible for pricing flexibility for any of its frame relay and ATM services.

17. As a result of these restrictions, Verizon is often slower to respond to requests for bids and frequently is required to make such bids contingent on regulatory approval. Because of this and because Verizon has traditionally been precluded from serving enterprise customers entirely, Verizon has achieved only limited success in serving these customers to date. Verizon's data confirm this.

18. Verizon collects data on many of its large enterprise customers to determine their telecommunications needs and expenditures. Verizon obtains this information through a variety of sources, such as publicly available documents published or filed by the enterprise customer, discussions with these customers' internal telecommunications teams and account managers, and analysts or others in the industry who may have knowledge about a particular customer.

19. Using this information, Verizon monitors the types of services required by its large enterprise customers, the various carriers providing those services under contract or other arrangements, and when those arrangements may expire. Compiling this information enables Verizon to identify opportunities to submit proposals to large enterprise customers. Verizon also

tracks both the amount that large enterprise customers spend with Verizon, in terms of Total Billed Revenue ("TBR"), as well as what – to the best of its knowledge – the customer spends with other carriers for its various telecommunications needs.

20. In the course of preparing this declaration, Verizon studied the telecommunications spending practices of 24 of its largest 80 customers in the New York City metropolitan area, each of which purchases significant amounts of high-capacity services. This study revealed that among these 24 customers, Verizon earned only a small portion of the revenue expended by these customers for telecommunications services. The 24 customers studied spent a total of $4.1 billion annually for telecommunications services, ranging from $7.6 million to $1 billion. Overall, only 8.7 percent of that $4.1 billion — or $361 million — was spent to purchase telecommunications services from Verizon.

21. Verizon's experience in bidding for new contracts with large enterprise customers provides additional evidence of the intense competition for these customers. Since the beginning of 2003, Verizon has responded to at least 302 Request for Proposals ("RFPs") from potential large enterprise customers. On average, Verizon was one of at least 5 carriers responding to those RFPs. To date, Verizon has won contracts for only 68 of the 203 RFPs for which, to Verizon's knowledge, final selections have been made.

22. This concludes my declaration.

I hereby certify under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

Executed on July 1, 2004

Eric J. Bruno

ATTACHMENT 4

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

In the Matter of	)	
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	)	**CC Docket No. 01-338**
Implementation of the Local Competition Provisions of the Telecommunications Act of 1996	)	**CC Docket No. 96-98**
Deployment of Wireline Services Offering Advanced Telecommunications Capability	)	**CC Docket No. 98-147**

DECLARATION OF MOHIT PATEL

1. My name is Mohit Patel. I am the Director, Wholesale Services Project Management for Verizon. I have worked for Verizon and its predecessor companies for 13 years, including positions as Outside Plant ("OSP") Engineering Manager, OSP Construction and Cable Maintenance Manager, Collocation Program Manager and HiCap Provisioning Manager. My current responsibilities include Switched Access Project Management, SS7 Certification Project Management and Migrations Program Management.

2. The purpose of this declaration is to describe the nature of entrance facilities, how Verizon's competitors use entrance facilities to connect to Verizon's public telephone network, and the extent to which competitors have either migrated off of Verizon's entrance facilities to their own or alternative network facilities over the course of the last year and half or have used Verizon's special access services to connect their networks to Verizon's network, all of which

establish that Verizon's competitors do not need unbundled entrance facilities in order to compete.

I. Background

3. There are two primary methods another carrier may use to connect to Verizon's network – establishing an entrance facility or through collocation.

4. Most commonly, an entrance facility is a dedicated high capacity SONET fiber optic transport system that Verizon builds to another carrier, primarily Competitive Local Exchange Carriers ("CLECs") or Interexchange Carriers ("IXCs"). It consists of fiber optic strands that are connected through various fiber optic cables that run between a CLEC's or IXC's point-of-presence ("POP") and a specific Verizon central office. One end of the entrance facility is at the carrier's POP; the other "end" is at a Verizon central office. A SONET fiber optic multiplexer is located at each of these two "ends."

5. In this manner, entrance facilities are used to connect competitors' POPs to Verizon central offices or wire centers so that competitors can route traffic and connect their dedicated circuits to and from Verizon's public telephone network and aggregate and backhaul traffic to their POPs, by transporting them over the entrance facility.

II. Entrance Facilities Are Not Part of Verizon's Preexisting Network.

6. Entrance facilities are not part of Verizon's preexisting network. They must be constructed. Entrance facilities are dedicated facilities between Verizon and a single CLEC's or IXC's POP that are custom-designed, engineered, and constructed specifically for a CLEC or IXC based on the CLEC's or IXC's service needs.

7. To obtain entrance facilities, a CLEC or IXC places an order for entrance facilities with Verizon. Based upon traffic forecasts from the CLEC or IXC and/or usage

patterns as determined by Verizon's engineers, Verizon and the CLEC or IXC determine the size or capacity of the entrance facility (OC-12, OC-48, OC-192), and Verizon then constructs the physical fiber link between the carrier's POP and the Verizon central office or wire center. The appropriate electronics – dedicated fiber optic multiplexers and associated distribution panels – are installed and terminated to this fiber link establishing the entrance facility.

8. Historically, Verizon has not charged IXCs or CLECs for the installation or maintenance of facilities and equipment, such as fiber, fiber distribution panels, and multiplexers constructed to establish entrance facilities. The facilities and equipment are owned by Verizon and are installed as a service to the customer for the purpose of connecting the CLEC's or IXC's POP to Verizon's network.

9. Once the physical fiber facilities are in place, the CLEC or IXC may order transport services, such as DS-1s, DS-3s, and OCns that are transported over the dedicated fiber optic system entrance facility, to allow the CLEC or IXC to deliver and receive telecommunications traffic. Verizon seeks to recover the cost for providing and maintaining the entrance facility through revenues generated from the service(s) provided to the CLEC or IXC over the entrance facility.

10. In addition, entrance facilities typically are not used by Verizon or by any other CLEC or IXC to provide service. Verizon does not use any of the equipment in a CLEC or IXC entrance facility to provide service to its own end users.

III. Competitors Are Using Alternative Facilities to Connect To Verizon's Network.

11. Prior to the 1996 Act and Local Competition Order, Verizon designed and built entrance facilities for other carriers because it was in most cases the only means by which a carrier could connect to Verizon's network, and Verizon bore the cost of constructing these

entrance facilities because Verizon was able to recover the costs from revenue received from the services Verizon provided over the facility. Today, however, other carriers are able to and do connect to Verizon's network by collocating their own equipment in a Verizon central office or wire center and provisioning their own or obtaining from alternative providers transport facilities needed to transport telecommunications traffic from their collocation arrangement to their POP.

12. Collocation allows CLECs and IXCs to connect to Verizon's network by installing fiber from their collocation point with Verizon to their own switch in their POP location using essentially the same electronic equipment as Verizon uses to establish an entrance facility. The CLEC or IXC has control over what type of equipment to order as well as the freedom to negotiate prices with the equipment vendors.

13. The ease and convenience with which CLECs and IXCs can use collocation to connect with Verizon's network instead of using Verizon-constructed entrance facilities is reflected by recent trends in CLEC and IXC service requests.

14. In the year 2003, Verizon processed 145 requests relating to entrance facilities in its Verizon East territory. Of those requests, only 29 involved the installation of new entrance facilities. During that same period, 34 requests involved the removal of entrance facility equipment.

15. The increase in CLEC and IXC collocation has resulted in situations in which entrance facilities are carrying less than 50 percent of the traffic they are capable of carrying. Since the cost of the entrance facilities (borne by Verizon) are recovered from the traffic carried over these facilities, Verizon is in some cases falling short of the revenue needed to recoup its expenses.

16. In addition, Verizon data for 2003 shows that, in addition to opting for collocation over entrance facilities as a means to establish new interconnection facilities, carriers are increasingly moving off of *existing* entrance facility arrangements to collocation facilities located in central offices and wire centers deeper into Verizon's network. This allows the carrier to reduce and eliminate the need to obtain transport from Verizon back to their POP. In 2003, Verizon processed orders to move more than 20,000 carrier circuits from the POP to collocation arrangements those carriers had established in central offices and wire centers deeper into Verizon's network. In the first quarter of 2004, over 5,953 circuits (including subtending circuits) were migrated from POP to collocation arrangements in Verizon's East territory.

17. Even where carriers are continuing to use entrance facilities to connect to and deliver traffic to their POPs, they purchase transport facilities (DS-1s, DS-3s, and OCns) primarily through Verizon's special access services, not as UNEs. Of the high-capacity entrance-facility circuits that carriers purchased from Verizon in service as of March 2004, approximately 96 percent were purchased as special access, while only 4 percent were purchased as UNEs. *See* Declaration of Judy K. Verses, Ronald H. Lataille, Marion C. Jordan, and Lynelle J. Reney ¶ 52.

18. These figures further illustrate that CLECs and IXCs are moving away from using entrance facilities and are competing with Verizon by using their own transport to bring traffic to their collocation point in Verizon's central offices and wire centers. Alternatively, even where carriers choose to use entrance facilities, they use predominately special access services, not UNEs, and are competing successfully doing so.

19. This concludes my declaration.

I hereby certify under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

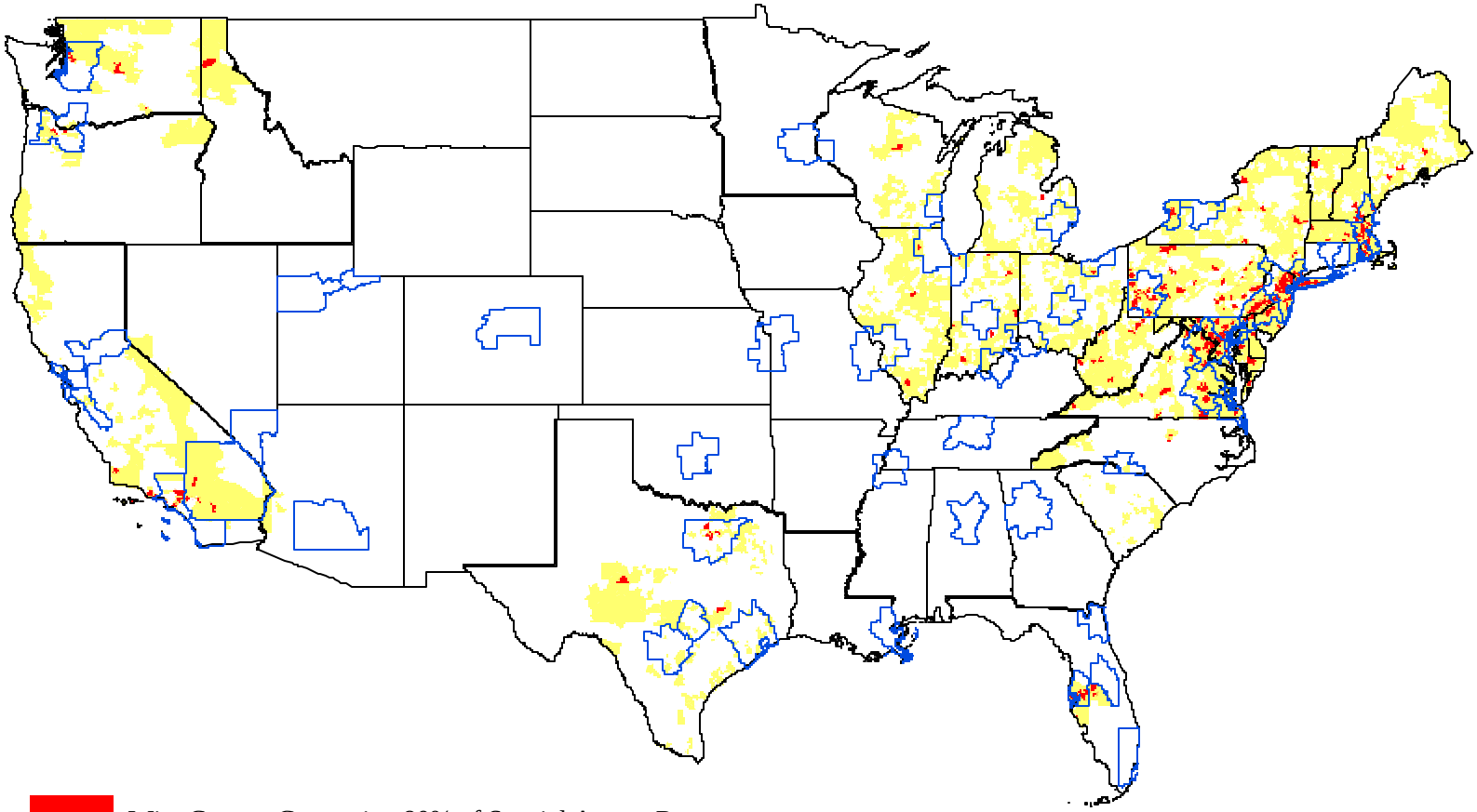
Executed on June 30, 2004

Mohit Patel

Mohit Patel

ATTACHMENT 5

Verizon Wire Centers Generating 80% of Special Access Revenue

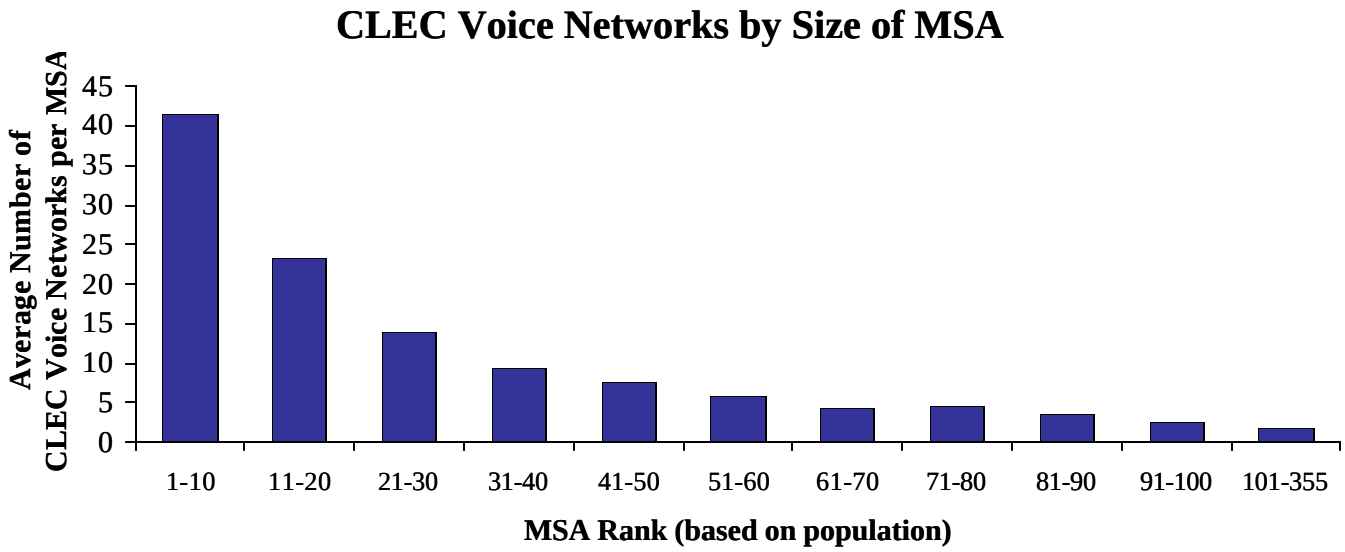


Wire Centers Generating 80% of Special Access Revenue

Verizon Service Area

Top 50 MSA Boundaries

ATTACHMENT 6



Sources: *See* Source Appendix.

ATTACHMENT 7

Competitive Fiber Connects to All Major Traffic Aggregation Points	
CLECs	
Cablevision	"[M]ore than 50 hubs and presence in the [New York metro] areas' major carrier hotels."
Grande Comms.	"[M]ost Carrier POPs, major ILEC central offices, carrier hotels, central/suburban business centers, data centers, co-location facilities and CLECs."
ITC^DeltaCom	"[I]nterconnections with multiple CAPS in many of our transport POP locations."
KMC Telecom	"[I]nterconnects with major central offices and carrier points of presence (POPs)."
Level 3	"[M]etro fiber connects key traffic aggregation points."
XO	"[D]irect paths to all other major Network Service Providers."
Xspedius	"[O]ptimal connectivity of major Business Districts, Local Serving Offices, Carrier Hotels, and Interexchange Carrier Points-of-Presence (POP) sites."
Yipes	"Multiple peering points, through multiple interexchange carriers."
WHOLESALE FIBER PROVIDERS	
AboveNet	"[D]irect access to carrier hotels, data centers and key commercial office buildings."
American Fiber Systems	"ILEC and CLEC central offices; ISP and ASP facilities; Interexchange 'carrier hotels;' Wireless providers and cable company head ends."
C2C Fiber	"[K]ey carrier access points . . . including major carrier locations and service provider POPs."
City Signal	"Central Offices, Carrier Hotels, Data Centers . . . central business districts and suburban office parks."
Fibertech	"[C]onnections to virtually all central offices, POPs and data centers."
LightCore	"[M]ajor bandwidth aggregation points such as serving wire centers, IXC POPs and neutral co-location facilities"
Looking Glass Networks	"[C]onnections to major data aggregation facilities . . . and access to IXC, ISP, ILEC and CLEC locations as well as Web hosting facilities and data centers."
NEESCom/ Gridcom	"Strategic routing past prime office buildings, industrial parks, IXC POPs"
NEON	"[K]ey central offices, tandems, and carrier hotels."
OnFiber	"[C]onnectivity to data centers, carrier hotels, and enterprise businesses."
UTILITIES	
Con Edison Communications	"CEC's New York City metro area network . . . interconnects over 100 commercial buildings, all major carrier Points-of-Presence (POPs) and many of the Verizon Central Offices."
Progress Telecom	"High-speed data connectivity between data centers and carrier hotels."
PPL Telcom	"[N]umerous CO, Peering, and Carrier Hotel collocates."
Edison Carrier Solutions	"Connectivity to carrier points-of-presence, carrier hotels, data centers, tandems and end-offices."
FPL Fibernet	"[C]onnectivity to more central offices, carrier hotels and international cable-heads than any other fiber wholesaler in the state"
Lafayette Utilities System	"[D]irect connections to Tier 1 providers."
Southern Telecom	"[D]irect connectivity to major carrier hotels . . .. . direct access to the AT&T Super Node."
Marietta Fibernet	"[P]resence in several large data centers . . . fiber connections in several telecom hotels . . . [and] co-locat[ions] in several Bell South central offices."
AGL Networks	"Atlanta's large carrier hotels, IXCs and LSOs." "[A]ccessibility to the main COs, IXCs, and carrier hotels . . . of Phoenix and Tempe."
Sources: *See* Source Appendix.	

ATTACHMENT 8

CLEC NETWORKS BY MSA

This attachment tabulates the number of CLEC networks in the 150 largest Metropolitan Statistical Areas (MSAs). It is based on the CLEC Report prepared by New Paradigm Resources Group (NPRG).

The data are from NPRG's latest report – the *CLEC Report 2004* – which describes CLEC networks as either "Operational," "On-Net," "Resale," or "Planned." We have tabulated only Operational and On-Net networks, both of which appear to involve the use of a CLEC's own facilities. CLECs operating On-Net networks are indicated in italics.

In some MSAs, the total number of Operational and On-Net networks exceeds the number of CLECs operating within those MSAs. This is due to the fact that, in some instances, individual CLECs operate multiple networks within the same MSA.

MSA	CLEC Networks – 2004
1. New York-Northern New Jersey-Long Island, NY-NJ-PA	Allegiance Telecom; AT&T; Broadview Networks; *Cablevision Lightpath*; *Comcast Business Communications*; *Conversent Communications*; Eagle Communications; *Focal Communications*; Global Crossing; IDT/Winstar Communications; MCI; *PaeTec*; Qwest Communications; *RCN*; *SBC Telecom*; Time Warner Telecom; *XO* **CLECs: 17** **Operational Networks: 56** **On-Net Networks: 27**
2. Los Angeles-Long Beach-Santa Ana, CA	Allegiance Telecom; AT&T; Cox Communications; Eagle Communications; *Focal Communications*; Global Crossing; *ICG Communications*; IDT/Winstar Communications; MCI; *Mpower Communications*; *Pac-West Telecomm*; *PaeTec*; Qwest Communications; *RCN*; Time Warner Telecom; US Telepacific; *XO* **CLECs: 17** **Operational Networks: 34** **On-Net Networks: 24**
3. Chicago-Naperville-Joliet, IL-IN-WI	Allegiance Telecom; AT&T; CoreComm; *Eagle Communications*; Focal Communications; Global Crossing; Globalcom; ICG Communications; IDT/Winstar Communications; MCI; *McLeodUSA*; Mpower Communications; PaeTec; Qwest Communications; *RCN*; Time Warner Telecom; Verizon; XO **CLECs: 18** **Operational Networks: 23** **On-Net Networks: 6**
4. Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	Allegiance Telecom; AT&T; Broadview Networks; Cablevision Lightpath; *Cavalier Telephone*; *Comcast Business Communications*; *CoreComm*; CTC Communications; Eagle Communications; *Focal Communications*; Global Crossing; IDT/Winstar Communications; MCI; *PaeTec*; Qwest Communications; *RCN*; SBC; US LEC; *XO* **CLECs: 19** **Operational Networks: 26** **On-Net Networks: 34**
5. Dallas-Fort Worth-Arlington, TX	Allegiance Telecom; AT&T; *Birch Telecom*; *Eagle Communications*; *Focal Communications*; Global Crossing; Grande Communications Network; ICG Communications; IDT/Winstar Communications; *ITC^DeltaCom*; Logix Communications; MCI; *Mpower Communications*; Qwest Communications; Time Warner Telecom; XO **CLECs: 16** **Operational Networks: 25** **On-Net Networks: 8**
6. Miami-Fort Lauderdale-Miami Beach, FL	Allegiance Telecom; AT&T; *Florida Digital Network*; *Eagle Communications*; *ITC^DeltaCom*; MCI; *Mpower Communications*; *US LEC*; NuVox Communications; *PaeTec*; SBC Telecom; XO **CLECs: 14** **Operational Networks: 24** **On-Net Networks: 12**
7. Washington-Arlington-Alexandria, DC-MD-VA-WV	Allegiance Telecom; *AT&T*; *Cavalier Telephone*; *Comcast Business Communications*; Cox Communications; *Focal Communications*; Global Crossing; ICG Communications; IDT/Winstar Communications; MCI; *PaeTec*; Qwest Communications; *RCN*; SBC Telecom; *US LEC*; XO **CLECs: 16** **Operational Networks: 18** **On-Net Networks: 29**
8. Houston-Baytown-Sugar Land, TX	Allegiance Telecom; AT&T; *Birch Telecom*; *Eagle Communications*; Focal Communications; Global Crossing; Grande Communications Network; ICG Communications; IDT/Winstar Communications; ITC^DeltaCom; Logix Communications; MCI; McLeodUSA; *Mpower Communications;* Qwest Communications; Time Warner Telecom; XO **CLECs: 17** **Operational Networks: 19** **On-Net Networks: 4**
9. Detroit-Warren-Livonia, MI	AT&T; Comcast Business Communications, IDT/Winstar Communications; MCI; *Mpower Communications*; Qwest Communications; XO **CLECs: 7** **Operational Networks: 14** **On-Net Networks: 1**

MSA	CLEC Networks – 2004
10. Boston-Cambridge-Quincy, MA-NH	Allegiance Telecom; AT&T; *BayRing Communications*; Broadview Networks; Choice One Communications; Conversent Communications; *CTC Communications*; Eagle *Communications*; Focal Communications; Global Crossing; Global NAPs; ICG Communications; IDT/Winstar Communications; MCI; PaeTec; Qwest Communications; *RCN*; *RNK Telecom*; SBC Telecom; XO **CLECs: 20** **Operational Networks: 22** **On-Net Networks: 43**
11. Atlanta-Sandy Springs-Marietta, GA	Allegiance Telecom; AT&T; *Birch Telecom*; Cox Communications; Eagle Communications; Global Crossing; Grande Communications Network; ICG Communications; IDT/Winstar Communications; *ITC^DeltaCom*; MCI; Mpower Communications; *NewSouth Communications*; NuVox Communications; *SBC Telecom*; Time Warner Telecom; US LEC; Verizon; *XO* **CLECs: 19** **Operational Networks: 21** **On-Net Networks: 9**
12. San Francisco-Oakland-Fremont, CA	Allegiance Telecom; AT&T; *Focal Communications*; Global Crossing; *ICG Communications*; IDT/Winstar Communications; MCI; *Mpower Communications*; *Pac-West Telecomm*; Qwest Communications; *RCN*; Time Warner Telecom; *US Telepacific*; *XO* **CLECs: 14** **Operational Networks: 21** **On-Net Networks: 13**
13. Riverside-San Bernardino-Ontario, CA	Allegiance Telecom; *AT&T*; *ICG Communications*; *Mpower*; *Pac-West Telecomm*; *Time Warner Telecom* **CLECs: 6** **Operational Networks: 4** **On-Net Networks: 8**
14. Phoenix-Mesa-Scottsdale, AZ	Allegiance Telecom; AT&T; Cox Communications; Eschelon Telecom; Global Crossing; IDT/Winstar Communications; MCI; *McLeodUSA*; Pac-West Telecomm; SBC Telecom; Time Warner Telecom; Verizon; XO **CLECs: 13** **Operational Networks: 13** **On-Net Networks: 2**
15. Seattle-Tacoma-Bellevue, WA	Allegiance Telecom; *AT&T*; *Eschelon Telecom*; Focal Communications; Global Crossing; ICG Communications; IDT/Winstar Communications; Integra Telecom; MCI; McLeodUSA; Pac-West Telecomm; SBC Telecom; Time Warner Telecom; XO **CLECs: 14** **Operational Networks: 17** **On-Net Networks: 2**
16. Minneapolis-St. Paul-Bloomington, MN-WI	Allegiance Telecom; *AT&T*; *Eschelon Telecom*; Focal Communications; Global Crossing; IDT/Winstar Communications; Integra Telecom; KMC Telecom; MCI; *McLeodUSA*; SBC Telecom; Time Warner Telecom; *XO* **CLECs: 13** **Operational Networks: 15** **On-Net Networks: 4**
17. San Diego-Carlsbad-San Marcos, CA	Allegiance Telecom; AT&T; Cox Communications; Global Crossing; *ICG Communications*; MCI; Mpower Communications; Pac-West Telecomm; Qwest Communications; *RCN*; Time Warner Telecom; US Telepacific; XO **CLECs: 13** **Operational Networks: 13** **On-Net Networks: 5**
18. St. Louis, MO-IL	AT&T; Allegiance Telecom; *Birch Telecom*; Global Crossing; IDT/Winstar Communications; MCI; McLeodUSA; NuVox Communications; Qwest Communications; XO **CLECs: 10** **Operational Networks: 13** **On-Net Networks: 1**

MSA	CLEC Networks – 2004
19. Baltimore-Towson, MD	Allegiance Telecom; AT&T; *Cavalier Telephone*; Comcast Business Communications; Focal Communications; Global Crossing; IDT/Winstar Communications; MCI; *PaeTec*; Qwest Communications; *RCN*; *SBC Telecom*; US LEC; XO **CLECs: 14** **Operational Networks: 11** **On-Net Networks: 5**
20. Pittsburgh, PA	Allegiance Telecom; AT&T; Choice One Communications; MCI; *PaeTec*; Qwest Communications; US LEC **CLECs: 7** **Operational Networks: 6** **On-Net Networks: 1**
21. Tampa-St. Petersburg-Clearwater, FL	Allegiance Telecom; AT&T; *Eagle Communications*; *Florida Digital Network*; Global Crossing; IDT/Winstar Communications; *ITC^DeltaCom*; KMC Telecom; MCI; Mpower Communications; *NewSouth Communications*; SBC Telecom; Time Warner Telecom; *US LEC*; XO **CLECs: 15** **Operational Networks: 14** **On-Net Networks: 8**
22. Denver-Aurora, CO	Allegiance Telecom; AT&T; Eschelon Telecom; Global Crossing; ICG Communications; IDT/Winstar Communications; MCI; McLeodUSA; Pac-West Telecomm; SBC Telecom; Time Warner Telecom; Verizon; XO **CLECs: 13** **Operational Networks: 19**
23. Cleveland-Elyria-Mentor, OH	Allegiance Telecom; AT&T; Cablevision Lightpath; CoreComm; Focal Communications; Global Crossing; ICG Communications; MCI; *Mpower Communications*; Qwest Communications; XO **CLECs: 11** **Operational Networks: 11** **On-Net Networks: 1**
24. Cincinnati-Middletown, OH-KY-IN	AT&T; Global Crossing; ICG Communications; IDT/Winstar Communications; MCI; NuVox Communications; Time Warner Telecom **CLECs: 7** **Operational Networks: 7**
25. Portland-Vancouver-Beaverton, OR-WA	Allegiance Telecom; AT&T; Eschelon Telecom; Global Crossing; *Integra Telecom*; MCI; McLeodUSA; RIO Communications; SBC Telecom; Time Warner Telecom; XO **CLECs: 11** **Operational Networks: 13** **On-Net Networks: 1**
26. Kansas City, MO-KS	*AT&T; Birch Telecom*; Everest Connections; Global Crossing; MCI; NuVox Communications; Qwest Communications **CLECs: 7** **Operational Networks: 10** **On-Net Networks: 3**
27. Sacramento-Arden-Arcade-Roseville, CA	Allegiance Telecom; AT&T; Global Crossing; ICG Communications; MCI; *Mpower Communications*; Pac-West Telecomm; Qwest Communications; Time Warner Telecom; *XO* **CLECs: 10** **Operational Networks: 12** **On-Net Networks: 2**
28. San Jose-Sunnyvale-Santa Clara, CA	Allegiance Telecom; AT&T; *Focal Communications*; Global Crossing; *ICG Communications*; *MCI*; Mpower Communications; Pac-West Telecomm; Qwest Communications; US Telepacific; *XO* **CLECs: 11** **Operational Networks: 11** **On-Net Networks: 10**
29. San Antonio, TX	Allegiance Telecom; AT&T; *Birch Telecom*; Grande Communications Network; ICG Communications; IDT/Winstar Communications; *ITC^DeltaCom*; Logix Communications; MCI; McLeodUSA; *Mpower Communications*; Qwest Communications; Time Warner Telecom; XO **CLECs: 14** **Operational Networks: 12** **On-Net Networks: 3**

MSA	CLEC Networks – 2004
30. Orlando, FL	AT&T; *Florida Digital Network*; Grande Communications Network; *ITC^DeltaCom*; MCI; *NewSouth Communications*; Orlando Telephone; PaeTec; SBC Telecom; Time Warner Telecom; US LEC Corp.; XO **CLECs: 12** **Operational Networks: 10** **On-Net Networks: 6**
31. Columbus, OH	Choice One Communications; Global Crossing; ICG Communications; ITC^DeltaCom; Knology Broadband; McLeodUSA; *Mpower Communications*; NuVox Communications; Time Warner Telecom; XO **CLECs: 10** **Operational Networks: 9** **On-Net Networks: 1**
32. Providence-New Bedford-Fall River, RI-MA	AT&T; Choice One Communications; Conversent Communications; *CTC Communications*; MCI; *PaeTec*; *RNK Telecom* **CLECs: 7** **Operational Networks: 5** **On-Net Networks: 3**
33. Virginia Beach-Norfolk-Newport News, VA-NC	*Cavalier Telephone*; Cox Communications; KMC Telecom; *SBC Telecom*; *US LEC* **CLECs: 5** **Operational Networks: 4** **On-Net Networks: 3**
34. Indianapolis, IN	AT&T; Choice One Communications; Global Crossing; IDT/Winstar Communications; MCI; McLeodUSA; NuVox Communications; Qwest Communications; Time Warner Telecom **CLECs: 9** **Operational Networks: 9**
35. Milwaukee-Waukesha-West Allis, WI	AT&T; Choice One Communications; Global Crossing; MCI; *McLeodUSA*; Time Warner Telecom **CLECs: 6** **Operational Networks: 6** **On-Net Networks: 1**
36. Las Vegas-Paradise, NV	*Eagle Communications*; Mpower Communications; Pac-West Telecomm; SBC Telecom; US Telepacific; XO **CLECs: 6** **Operational Networks: 5** **On-Net Networks: 1**
37. Charlotte-Gastonia-Concord, NC-SC	AT&T; *Birch Telecom*; *Eagle Communications*; Global Crossing; ICG Communications; *ITC^DeltaCom*; NewSouth Communications; NuVox Communications; SBC Telecom; Time Warner Telecom; US LEC; Verizon **CLECs: 12** **Operational Networks: 9** **On-Net Networks: 4**
38. New Orleans-Metairie-Kenner, LA	Cox Communications; *ITC^DeltaCom*; *McLeodUSA*; NewSouth Communications; US LEC; Xspedius **CLECs: 6** **Operational Networks: 4** **On-Net Networks: 2**
39. Nashville-Davidson-Murfreesboro, TN	AT&T; *Birch Telecom*; *Eagle Communications*; ICG Communications; ITC^DeltaCom; NewSouth Communications; NuVox Communications; SBC Telecom; US LEC; XO; *Xspedius* **CLECs: 11** **Operational Networks: 10** **On-Net Networks: 3**
40. Austin-Round Rock, TX	Allegiance Telecom; AT&T; *Birch Telecom*; Grande Communications; ICG Communications; *ITC^DeltaCom*; Logix Communications; MCI; McLeodUSA; *Mpower Communications*; Qwest Communications; Time Warner Telecom.; XO **CLECs: 13** **Operational Networks: 11** **On-Net Networks: 3**

MSA	CLEC Networks – 2004
41. Memphis, TN-AR-MS	*Birch Telecom*; *Eagle Communications*; ICG Communications; *ITC^DeltaCom*; MCI; *Mpower Communications*; *NewSouth Communications*; NuVox Communications; SBC Telecom; Time Warner Telecom; US LEC; XO; Xspedius **CLECs: 13** **Operational Networks: 8** **On-Net Networks: 5**
42. Buffalo-Cheektowaga-Tonawanda, NY	AT&T; Broadview Networks; Choice One Communications; *CTC Communications Group*; *Eagle Communications*; MCI; *SBC Telecom* **CLECs: 7** **Operational Networks: 4** **On-Net Networks: 3**
43. Louisville, KY-IN	AT&T; ICG Communications; NewSouth Communications; NuVox Communications; SBC Telecom; US LEC **CLECs: 6** **Operational Networks: 6**
44. Hartford-West Hartford-East Hartford, CT	AT&T; Choice One Communications; Conversent Communications; Cox Communications; MCI **CLECs: 5** **Operational Networks: 6**
45. Jacksonville, FL	AT&T; *Florida Digital Network*; *ITC^DeltaCom*; NewSouth Communications; NuVox Communications; US LEC **CLECs: 6** **Operational Networks: 6** **On-Net Networks: 3**
46. Richmond, VA	AT&T; Cavalier Telephone; Cox Communications; US LEC **CLECs: 4** **Operational Networks: 5**
47. Oklahoma City, OK	*Birch Telecom*; Cox Communications; Logix Communications; MCI; McLeodUSA; NuVox Communications **CLECs: 6** **Operational Networks: 5** **On-Net Networks: 1**
48. Birmingham-Hoover, AL	AT&T; *Birch Telecom*; ICG Communications; ITC^DeltaCom; NewSouth Communications; US LEC; *Xspedius* **CLECs: 7** **Operational Networks: 5** **On-Net Networks: 4**
49. Rochester, NY	AT&T; Choice One Communications; *Eagle Communications*; Global Crossing; PaeTec; Time Warner Telecom **CLECs: 6** **Operational Networks: 5** **On-Net Networks: 1**
50. Salt Lake City, UT	AT&T; Eschelon Telecom; ICG Communications; Integra Telecom; MCI; McLeodUSA; SBC Telecom; XO **CLECs: 8** **Operational Networks: 9**
51. Bridgeport-Stamford-Norwalk, CT	AT&T; *Cablevision Lightpath*; Choice One Communications; IDT/Winstar Communications; MCI; Paetec **CLECs: 5** **Operational Networks: 4** **On-Net Networks: 5**
52. Honolulu, HI	Time Warner Telecom **CLECs: 1** **Operational Networks: 1**
53. Tulsa, OK	*Birch Telecom*; Cox Communications; Logix Communications; MCI; *McLeodUSA*; NuVox Communications **CLECs: 6** **Operational Networks: 4** **On-Net Networks: 3**

MSA	CLEC Networks – 2004
54. Dayton, OH	*AT&T*; Choice One Communications; ICG Communications; KMC Telecom; NuVox Communications; Time Warner Telecom **CLECs: 5** **Operational Networks: 5** **On-Net Networks: 1**
55. Tucson, AZ	Cox Communications; MCI; *McLeodUSA*; Time Warner Telecom **CLECs: 4** **Operational Networks: 3** **On-Net Networks: 1**
56. Albany-Schenectady-Troy, NY	AT&T; Broadview Networks; *Choice One Communications*; PaeTec; Qwest Communications; Time Warner Telecom **CLECs: 6** **Operational Networks: 6** **On-Net Networks: 1**
57. New Haven-Milford, CT	*AT&T*; Choice One Communications; *Conversent Communications*; *PaeTec* **CLECs: 4** **Operational Networks: 3** **On-Net Networks: 3**
58. Fresno, CA	ICG Communications; MCI; Pac-West Telecomm; Time Warner Telecom **CLECs: 4** **Operational Networks: 3** **On-Net Networks: 1**
59. Raleigh-Cary, NC	AT&T; *Eagle Communications*; *ITC^DeltaCom*; *NewSouth Communications*; NuVox Communications; SBC Telecom; Time Warner Telecom; US LEC Corp.; Verizon **CLECs: 9** **Operational Networks: 7** **On-Net Networks: 4**
60. Omaha-Council Bluffs, NE	AT&T; Cox Communications; *McLeodUSA* **CLECs: 3** **Operational Networks: 3** **On-Net Networks: 1**
61. Oxnard-Thousand Oaks-Ventura, CA	*ICG Communications; Time Warner Telecom* **CLECs: 2** **On-Net Networks: 2**
62. Worcester, MA	AT&T; Choice One Communications; Lightship Telecom; *PaeTec* **CLECs: 4** **Operational Networks: 4** **On-Net Networks: 1**
63. Grand Rapids-Wyoming, MI	Choice One Communications; MCI **CLECs: 2** **Operational Networks: 2**
64. Allentown-Bethlehem-Easton, PA	Choice One Communications; *RCN*; *XO* **CLECs: 3** **Operational Networks: 1** **On-Net Networks: 3**
65. Albuquerque, NM	MCI; McLeodUSA; *NTS Communications*; Time Warner Telecom; XO **CLECs: 5** **Operational Networks: 4** **On-Net Networks: 1**

MSA	CLEC Networks – 2004
66. Baton Rouge, LA	Cox Communications; *ITC^DeltaCom*; KMC Telecom; *NewSouth Communications*; Xpedius **CLECs: 5** **Operational Networks: 3** **On-Net Networks: 2**
67. Akron, OH	Choice One Communications; Global Crossing; ICG Communications; KMC Telecom; NuVox Communications; *XO* **CLECs: 6** **Operational Networks: 5** **On-Net Networks: 1**
68. Springfield, MA	AT&T; Choice One Communications; *CTC Communications Group*; *Eagle Communications*; MCI; *RNK Telecom* **CLECs: 6** **Operational Networks: 3** **On-Net Networks: 5**
69. El Paso, TX	*Birch Telecom*; Grande Communications; *McLeodUSA* **CLECs: 3** **Operational Networks: 1** **On-Net Networks: 3**
70. Bakersfield, CA	AT&T; MCI; *Pac-West Telecomm*; Time Warner Telecom **CLECs: 4** **Operational Networks: 3** **On-Net Networks: 1**
71. Toledo, OH	*Buckeye TeleSystem*; ICG Communications; KMC Telecom; MCI **CLECs: 4** **Operational Networks: 4** **On-Net Networks: 1**
72. Syracuse, NY	AT&T; Broadview Networks; Choice One Communications; Eagle Communications **CLECs: 4** **Operational Networks: 1**
73. Columbia, SC	*Birch Telecom*; ITC^DeltaCom; KMC Telecom; *NewSouth Communications*; NuVox Communications; Time Warner Telecom **CLECs: 6** **Operational Networks: 5** **On-Net Networks: 2**
74. Greensboro-High Point, NC	AT&T; *Birch Telecom*; *Eagle Communications*; *ITC^DeltaCom*; KMC Telecom; NewSouth Communications; NuVox Communications; Time Warner Telecom; US LEC; Xspedius **CLECs: 10** **Operational Networks: 9** **On-Net Networks: 3**
75. Poughkeepsie-Newburgh-Middletown, NY-PA	Not Available
76. Knoxville, TN	AT&T; *Birch Telecom*; *Eagle Communications*; *ITC^DeltaCom*; MCI; *NewSouth Communications*; NuVox Communications; US LEC **CLECs: 8** **Operational Networks: 4** **On-Net Networks: 4**
77. Little Rock-North Little Rock, AR	*ITC^DeltaCom*; MCI; *McLeodUSA*; NuVox Communications **CLECs: 4** **Operational Networks: 2** **On-Net Networks: 2**
78. Youngstown-Warren-Boardman, OH	Choice One Communications **CLECs: 1** **Operational Networks Networks: 1**

MSA	CLEC Networks – 2004
79. Sarasota-Bradenton-Venice, FL	*ITC^DeltaCom*; KMC Telecom **CLECs: 2** **Operational Networks: 1** **On-Net Networks: 1**
80. Wichita, KS	Birch Telecom; NuVox Communications **CLECs: 2** **Operational Networks: 3**
81. McAllen-Edinburg-Pharr, TX	*Birch Telecom*; Grande Communications; McLeodUSA **CLECs: 2** **Operational Networks: 2** **On-Net Networks: 1**
82. Stockton, CA	MCI; Pac-West Telecomm; *Time Warner Telecom* **CLECs: 3** **Operational Networks: 2** **On-Net Networks: 1**
83. Scranton-Wilkes-Barre, PA	Choice One Communications; *XO* **CLECs: 2** **Operational Networks: 1** **On-Net Networks: 1**
84. Greenville, SC	*Birch Telecom*; *ITC^DeltaCom*; NewSouth Communications; NuVox Communications **CLECs: 4** **Operational Networks: 3** **On-Net Networks: 2**
85. Charleston-North Charleston, SC	*ITC^DeltaCom*; KMC Telecom; Knology Broadband; NewSouth Communications; US LEC **CLECs: 5** **Operational Networks: 5** **On-Net Networks: 1**
86. Colorado Springs, CO	ICG Communications; McLeodUSA; *SunWest Communications* **CLECs: 3** **Operational Networks: 3** **On-Net Networks: 1**
87. Harrisburg-Carlisle, PA	Cavalier Telephone; Choice One Communications; *XO* **CLECs: 3** **Operational Networks: 1** **On-Net Networks: 2**
88. Madison, WI	Choice One Communications; KMC Telecom; McLeodUSA **CLECs: 3** **Operational Networks: 3**
89. Augusta-Richmond County, GA	*Birch Telecom*; *ITC^DeltaCom*; KMC Telecom; Knology Broadband; *NewSouth Communications* **CLECs: 5** **Operational Networks: 2** **On-Net Networks: 3**
90. Jackson, MS	*ITC^DeltaCom*; MCI; *NewSouth Communications*; Xspedius **CLECs: 4** **Operational Networks: 2** **On-Net Networks: 2**
91. Portland-South Portland, ME	Choice One Communications; Conversent Communications; *CTC Communications Group*; Lightship Telecom; MCI **CLECs: 5** **Operational Networks: 4** **On-Net Networks: 1**

MSA	CLEC Networks – 2004
92. Lakeland-Winter Haven, FL	NewSouth Communications **CLECs: 1** **Operational Networks: 1**
93. Des Moines, IA	McLeodUSA **CLECs: 1** **Operational Networks: 1**
94. Chattanooga TN-GA	AT&T; *Birch Telecom*; *ITC^DeltaCom*; KMC Telecom; US LEC **CLECs: 5** **Operational Networks: 3** **On-Net Networks: 2**
95. Palm Bay-Melbourne-Titusville, FL	*Florida Digital Network*; *ITC^DeltaCom*; KMC Telecom **CLECs: 3** **Operational Networks: 1** **On-Net Networks: 5**
96. Lancaster, PA	*Cavalier Telephone*; *Choice One Communications*; XO **CLECs: 3** **Operational Networks: 2** **On-Net Networks: 1**
97. Boise City-Nampa, ID	McLeodUSA; Time Warner Telecom **CLECs: 2** **Operational Networks: 2**
98. Santa Rosa-Petaluma, CA	*ICG Communications* **CLECs: 1** **On-Net Networks: 1**
99. Lansing-East Lansing, MI	Choice One Communications; KMC Telecom; MCI **CLECs: 3** **Operational Networks: 3**
100. Modesto, CA	Not Available
101. Deltona-Daytona Beach-Ormond Beach, FL	*Florida Digital Network*; *ITC^DeltaCom*; KMC Telecom; *PaeTec*; *US LEC* **CLECs: 6** **Operational Networks: 1** **On-Net Networks: 6**
102. Ogden-Clearfield, UT	*McLeodUSA* **CLECs: 1** **On-Net Networks: 1**
103. Cape Coral-Fort Myers, FL	*ITC^DeltaCom*; KMC Telecom **CLECs: 2** **Operational Networks: 1** **On-Net Networks: 1**
104. Flint, MI	Not Available
105. Durham, NC	*Eagle Communications*; *ITC^DeltaCom*; MCI **CLECs: 3** **Operational Networks: 1** **On-Net Networks: 3**
106. Winston-Salem, NC	*ITC^DeltaCom*; KMC Telecom; NuVox Communications; Xspedius **CLECs: 4** **Operational Networks: 3** **On-Net Networks: 2**

MSA	CLEC Networks – 2004
107. Spokane, WA	McLeodUSA; Time Warner Telecom; XO **CLECs: 3** **Operational Networks: 3**
108. Pensacola-Ferry Pass-Brent, FL	*ITC^DeltaCom*; *KMC Telecom*; *NewSouth Communications* **CLECs: 3** **On-Net Networks: 3**
109. Lexington-Fayette, KY	ICG Communications; NuVox Communications **CLECs: 2** **Operational Networks: 2**
110. Canton-Massillon, OH	*XO* **CLECs: 1** **On-Net Networks: 1**
111. Corpus Christi, TX	*Birch Telecom*; Grande Communications; ICG Communications; KMC Telecom; *McLeodUSA* **CLECs: 5** **Operational Networks: 3** **On-Net Networks: 3**
112. Salinas, CA	*Pac-West Telecomm* **CLECs: 1** **On-Net Networks: 1**
113. Mobile, AL	*Birch Telecom*; *ITC^DeltaCom*; NewSouth Communications; US LEC; Xspedius **CLECs: 5** **Operational Networks: 3** **On-Net Networks: 2**
114. Santa Barbara-Santa Maria-Goleta, CA	Cox Communications; ICG Communications; Time Warner Telecom **CLECs: 3** **Operational Networks: 3**
115. Vallejo-Fairfield, CA	Not Available
116. Fort Wayne, IN	Choice One Communications; KMC Telecom **CLECs: 2** **Operational Networks: 2**
117. Beaumont-Port Arthur, TX	*Birch Telecom*; Grande Communications; *ITC^DeltaCom* **CLECs: 3** **Operational Networks: 1** **On-Net Networks: 3**
118. York-Hanover, PA	Not Available
119. Manchester-Nashua, NH	Choice One Communications; Conversent Communications; *CTC Communications Group*; Lightship Telecom; MCI; *PaeTec* **CLECs: 6** **Operational Networks: 5** **On-Net Networks: 2**
120. Provo-Orem, UT	*XO* **CLECs: 1** **On-Net Networks: 1**
121. Davenport-Moline-Rock Island, IA-IL	McLeodUSA **CLECs: 1** **Operational Networks: 1**
122. Shreveport-Bossier City, LA	*ITC^DeltaCom*; KMC Telecom; Xspedius **CLECs: 3** **Operational Networks: 2** **On-Net Networks: 1**

MSA	CLEC Networks – 2004
123. Reading, PA	*XO* **CLECs: 1** **On-Net Networks: 1**
124. Asheville, NC	*ITC^DeltaCom*; *NewSouth Communications*; *US LEC* **CLECs: 3** **On-Net Networks: 3**
125. Springfield, MO	Global Crossing; MCI; McLeodUSA; NuVox Communications **CLECs: 4** **Operational Networks: 4**
126. Visalia-Porterville, CA	Not Available
127. Peoria, IL	*McLeodUSA* **CLECs: 1** **On-Net Networks: 1**
128. Trenton-Ewing, NJ	*Cavalier Telephone* **CLECs: 1** **On-Net Networks: 2**
129. Salem, OR	AT&T; *Eschelon Telecom*; *Integra Telecom* **CLECs: 3** **Operational Networks: 1** **On-Net Networks: 2**
130. Fayetteville-Springdale-Rogers, AR-MO	*McLeodUSA* **CLECs: 1** **On-Net Networks: 1**
131. Montgomery, AL	*Birch Telecom*; ITC^DeltaCom; KMC Telecom; Knology Broadband; *NewSouth Communications*; *US LEC*; Xspedius **CLECs: 7** **Operational Newtorks: 4** **On-Net Networks: 3**
132. Reno-Sparks, NV	MCI **CLECs: 1** **Operational Networks: 1**
133. Evansville, IN-KY	AT&T; *Choice One Communications*; *McLeodUSA*; Sigecom-CLEC **CLECs: 4** **Operational Networks: 2** **On-Net Networks: 2**
134. Huntsville, AL	*ITC^DeltaCom*; KMC Telecom; Knology Broadband; *US LEC* **CLECs: 4** **Operational Networks: 2** **On-Net Networks: 2**
135. Hickory-Morganton-Lenoir, NC	*US LEC* **CLECs: 1** **On-Net Networks: 1**
136. Fayetteville, NC	*ITC^DeltaCom*; KMC Telecom; Time Warner Telecom **CLECs: 3** **Operational Networks: 2** **On-Net Networks: 1**
137. Brownsville-Harlingen, TX	*Birch Telecom*; Grande Communications **CLECs: 2** **Operational Networks: 1** **On-Net Networks: 2**

MSA	CLEC Networks – 2004
138. Killeen-Temple-Fort Hood, TX	Not Available
139. Eugene-Springfield, OR	AT&T; *Eschelon Telecom*; *McLeodUSA*; RIO Communications **CLECs: 4** **Operational Networks: 2** **On-Net Networks: 2**
140. Ann Arbor, MI	Choice One Communications; KMC Telecom; *Mpower* **CLECs: 3** **Operational Networks: 2** **On-Net Networks 1**
141. Tallahassee, FL	*ITC^DeltaCom*; KMC Telecom **CLECs: 2** **Operational CLEC Networks: 1** **On-Net CLEC Networks: 2**
142. Rockford, IL	Choice One Communications; *McLeodUSA* **CLECs: 2** **Operational Networks: 1** **On-Net Networks: 1**
143. Anchorage, AK	General Communications **CLECs: 1** **Operational Networks: 1**
144. Port St. Lucie-Fort Pierce, FL	Cox Communications; *Florida Digital Networks* **CLECs: 2** **Operational Networks: 1** **On-Net Networks: 2**
145. South Bend-Mishawaka, IN-MI	Choice One Communications; *McLeodUSA* **CLECs: 2** **Operational Networks: 1** **On-Net Networks: 1**
146. Kalamazoo-Portage, MI	Choice One Communications **CLECs: 1** **Operational Networks: 1**
147. Charleston, WV	Not Available
148. Utica-Rome, NY	Not Available
149. Savannah, GA	*ITC^DeltaCom*; KMC Telecom; *NewSouth Communications* **CLECs: 3** **Operational Networks: 1** **On-Net Networks: 2**
150. Huntington-Ashland, WV-KY-OH	Not Available
Sources: *See* Source Appendix.	

ATTACHMENT 9

CLEC Fiber Networks

	Markets		Route Miles of Fiber	On-Net Buildings
	Cities	States		
AT&T	84	35	20,600*	6,400
Buckeye	n/a	2	250	900
C. Lightpath	n/a	3	7,000	1,620
Cavalier	16	5, DC	2,000	n/a
Choice One	37	12	1,429*	n/a
Cinergy	n/a		1,000	n/a
Comcast Bus.	n/a		1,600	265**
Cox Communications	20		9,500	6,600
Grande Comms.	6	1	3,100	n/a
ICG Communications	24	5	2,166*	913
IDT Solutions	2	1, DC	10,000**	3,500**
Integra Telecom		5	85	n/a
ITC^DeltaCom	22	7	14,488	n/a
KMC Telecom	35		2,400	15,600
Level 3	27		4,000*	550
MCI	60	35, DC	9,000*	n/a
McLeodUSA	108	25	5,000**	1,500**
NewSouth		9	n/a	n/a
NTS Communications	7	1	7,000	50
Qwest	27	14, DC	1,800	250**
SIGECOM	2	1	880	n/a
TelCove	35		19,186	3,500
Time Warner Telecom	44		11,345*	3,854
XO	50		23,700	2,374
Xspedius	52	24, DC	3,500*	n/a
Yipes	10		21,000	474
		Totals	**182,029**	**48,350**

Notes:

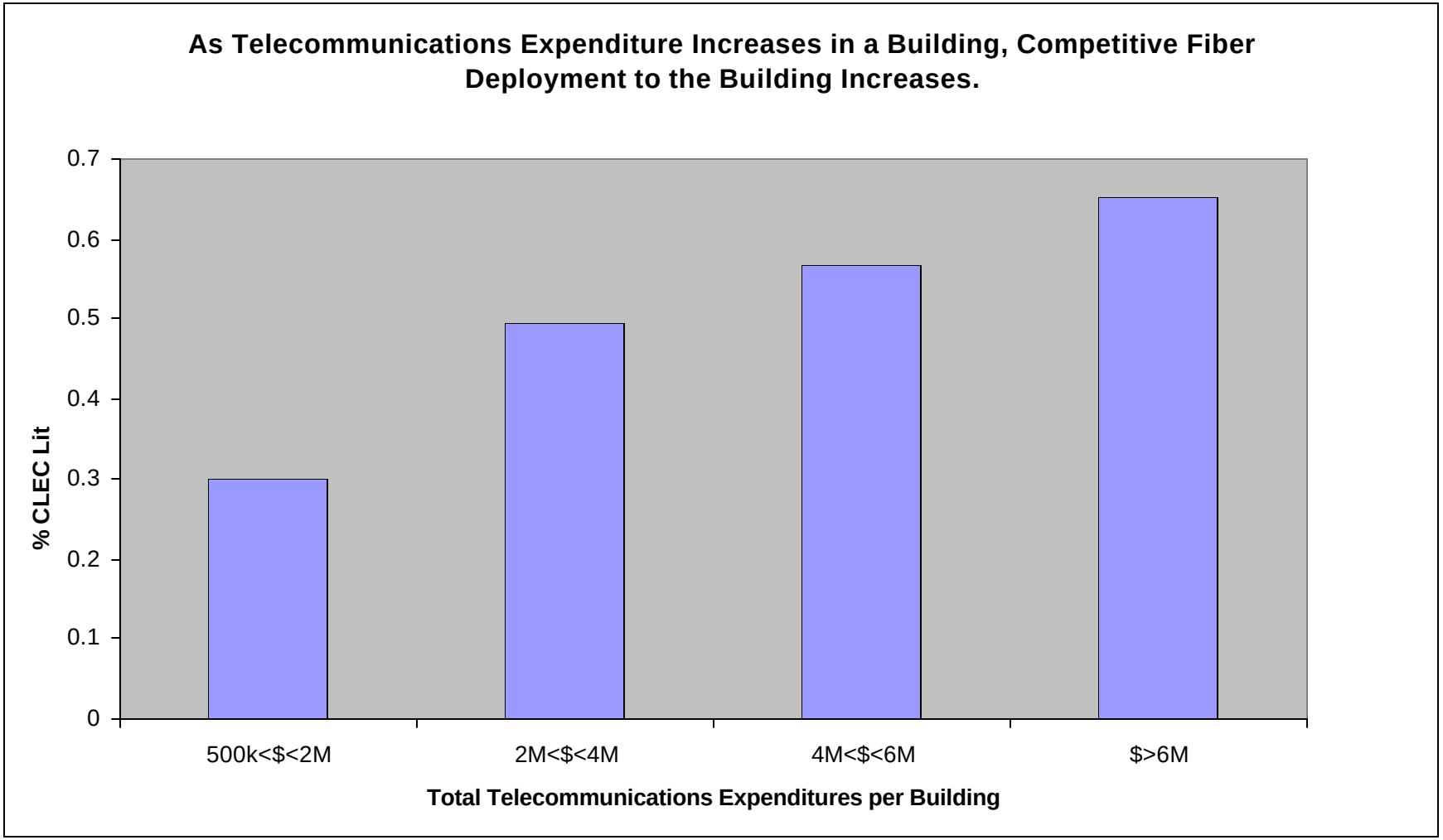
Totals use data self-reported by CLECs, where possible. Where such data are not available, source is New Paradigm Resources Group's *2004 CLEC Report*.

* Indicates local route miles only. Other route mile totals potentially include long-haul miles in addition to local.

** Indicates that current year data (2003-04) was unavailable and that data from most recent prior period was used.

Sources: *See* Source Appendix.

ATTACHMENT 10


As Telecommunications Expenditure Increases in a Building, Competitive Fiber Deployment to the Building Increases.
% CLEC Lit
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
500k<$<2M
2M<$<4M
4M<$<6M
$>6M
Total Telecommunications Expenditures per Building

ATTACHMENT 11

Use of Fixed Wireless to Extend Fiber Networks	
AT&T	"AT&T Managed Internet Service gives Maritz a reliable, redundant Internet connection with a 10-mbps fixed pipe and AT&T-managed router. Last mile connectivity is provided by an innovative 18-gigaherz wireless radio link as part of the company's local loop." (AT&T Case Study, 12/01) "[W]e're looking at all types of technologies that will allow us to bypass the ILECs all together. We're checking out power line, 802.11, fixed wireless and free space optics technologies." (Hossein Eslambolchi, CTO & CIO, 12/03)
Cox	"A growing number of [cable] operators are looking at wireless technology as a cost-effective means of reaching a significant share of the commercial market previously thought to be unreachable. 'We're watching wireless development very closely. We're very open to using services to complement what we do and are trialing it now.'" (Bill Stemper, VP, Cox Business Services, 11/03)
Covad	Covad is "looking for ways to extend the copper plant economically and WiMAX is very much a possibility." (Ron Marquardt, Technical Director, 3/04)
XO	"[Fixed wireless] trials could be a very meaningful breakthrough for XO, in that XO can reduce 'last mile' costs, XO can become even more price competitive than it is today for business customers." (Carl Grivner, CEO, 1/04)
OnFiber	OnFiber, a wholesale metro fiber provider, is working with fSONA Communications and Terabeam, providers of wireless solutions using FSO technology, to "extend the network" where "cost or geography prohibit the use of fiber infrastructure." (Michael Guess, COO, 10/03)
Terabeam	"We're in trials with just about every major tier-one carrier in this country and with many tier-one carriers outside the U.S." (Dan Hesse, CEO, 4/03)
WilTel	"The combination of fixed wireless connectivity to Extended On-Net and WilTel's managed services creates tremendous opportunities for customers in Tier 2 and 3 markets, because now they can have direct, on-net access to WilTel's robust services in the manner that is most effective for them – be it fiber builds or direct wireless connections." (Tony Tomae, SVP, Marketing, 5/04)
Sources: *See* Source Appendix.	

ATTACHMENT 12

Fixed Wireless Providers Offering Wholesale Services	
airBand	"airBand offers a dedicated [wireless] private line . . . as a last mile solution for **carriers** that want to avoid the high costs associated with laying copper or fiber."
Conterra	"Conterra is deploying a hybrid of fixed wireless technologies, both in licensed and unlicensed spectrum, to meet the needs of small to large enterprises including, governments, schools and other **carriers**."
First Avenue Networks	Leases licensed spectrum in 39GHz band to "**large and small telecom providers**" using "licenses that cover 99% of the U.S," including "over 350 MHz of spectrum in the top 50 markets." Leases spectrum to carriers on a "per-link basis" at varying capacities "that can accommodate speeds from **T-1 . . . up to OC-12**" for as little as "$500 per link, per year"
IDT Solutions	IDT Solutions "will rent blocks of the company's wireless spectrum to **other carriers**."
NextWeb	NextWeb is "counting on its turnkey offer to entice **landline carriers** to add broadband wireless."
Teligent	"Teligent will provide transport services to other carriers." "Teligent provides a dedicated Local Private Line service with access capabilities from **T1 to OC3** (up to 155 Mbps). Teligent's Local Private Line is a licensed digital point-to-point service designed for **carriers** . . . who require scalable bandwidth and secure direct connectivity to additional locations."
XO	"XO is rolling out its fixed wireless services directly and through **other carriers** that would resell it to end users. A handful of **smaller carriers** have resold it, says [Mark] Salter [the company's vice president of broadband wireless]"
Sources: See Source Appendix.	

ATTACHMENT 13

Cable Serving Business Customers		
	Fiber	**Cable Modem**
Cablevision	"Lightpath owns, installs and operates its own advanced fiber-optic network facility, comprising over 10,000 route miles of fiber-optic cable that connects . . . to more than 1500" buildings	Business Class Optimum Online for small businesses offers connection speeds up to 10 Mbps downstream and 1 Mbps upstream. "[T]he business sector opportunity has 'actually helped us build the network into the business areas and business parks.'"
Time Warner	"We've got an infrastructure there that is just ripe for commercial services . . . . We pass 1.2 million businesses . . . ." "[D]elivering cost effective, high capacity access solutions to several Fortune 500 customers." Provides service to 139,000 customers as of the end of 1Q04.	According to the company, "'[c]able is not incredibly difficult to get to the business,'" and "'[m]ost RBOCs, CLECs and ILECs have ignored that space.'" Time Warner "views the SMB market as a high-growth opportunity."
Charter	Moving "'up-market' to compete in Enterprise RFP environment"; 9 percent of business subscribers are medium or large businesses.	Small Business Internet Service is "designed specifically for small, growing businesses." "[O]ver 600,000 small- and medium-sized businesses located within reach of our networks"
Comcast	"Seamlessly link your facilities with a secure metropolitan area network. Exchange data at speeds up to gigabits per second and command your traffic while Comcast Commercial Services manages the connectivity."	Targets "SMBs with 1-100 employees," "Non-profit orgs, schools, government," and "SMBs and Enterprises with telecommuters."
Cox	Provides data, voice, and transport services to more than 100,000 customers More than 320,000 businesses lie within 100 feet of Cox's network, providing Cox a "significant opportunity."	"[S]erves 19 of the Cox cable markets, covering more than 90 percent of Cox's overall footprint nationally, marketing basic data and video services aggressively to small- and medium-sized businesses the company can easily serve with current network connections." Cox "has really embraced commercial" services.
RCN	"[S]igned several agreements to expand its business" to provide "voice, video, data, business cable, Internet access, transport," to "customers including universities, hospitals, and the financial and legal industries."	
Sources: *See* Source Appendix.		

ATTACHMENT 14

Business Types Served by
Sample CLECs Using Verizon Special Access

Category and Number of Circuits	Total
Accountants	104
Advertising & Marketing	952
Aerospace Manufacturer	6
Aerospace Research & Development	58
Aerospace Technology	9
Agricultural Products	8
Air Cargo & Package Express Services	7
Air Conditioning Contractors	10
Aircraft Flight Training Equipment	11
Aircraft Manufacturers	56
Aircraft Parts & Equipment	11
Airports	159
Alarm Systems & Security Services	404
Alcohol & Drug Abuse Rehabilitation Services	18
Ambulance Services	6
Antique Dealers	2
Antique Reproductions Retailers	7
Apartment Complexes	3
Appliance Service & Repair	1
Appraisal Service	4
Arcades & Amusements	32
Architectural Services	32
Armed Forces	782
Armed Forces - Air Force	2
Armed Forces - Air Force Base	263
Armed Forces - Army	194
Armed Forces - Coast Guard	3
Armed Forces - National Guard	4
Armed Forces - Navy	26
Art Collection	3
Art Supplies Retailers	4
Arts & Entertainment	130
Arts & Entertainment - Cinemas & Theatres	59
Arts & Entertainment - Music	40
Associations and Interest Groups	725
Auctioneers	23
Audiovisual Equipment Manufacturers	9
Audiovisual/Computer Rental & Leasing	6
Autioneers	3
Auto Clubs	2
Auto Dealers	1796
Auto Manufacturers	131
Auto Rentals	844
Automated Teller Machines	2
Automation Consultants	2
Automation Equipment & Systems Dealers	15
Automotive - Auction	5
Automotive - Parts, Supplies, Service	1019

Category and Number of Circuits	Total
Automotive - Truck Sales, Service	43
Aviation	66
Aviation Services	113
Bail Bonds	3
Bank Equipment & Supplies	12
Bar Code Scanning Equipment & Supplies	2
Barrels & Drums	7
Bearings Wholesale & Manufacturers	3
Beauty Salon Equipment & Supplies Retail	5
Beverages Wholesale & Manufacturers	4
Biomedical Research	1
Biotechnology	117
Boat Manufacturers	4
Book & Music Stores	180
Books & Music Retailers	392
Builders & Contractors	233
Builders & Contractors - Commercial & Industrial	171
Builders & Contractors - Home Construction	65
Building Inspection & Pest Control Services	56
Building Materials & Supplies Dealers	113
Building Materials & Supplies Dealers - Fiberglass	8
Building Remodeling & Repair Contractors	9
Business & Professional Services	1230
Business Consultants & Advisors	2
Business Services - Distribution	245
Cable Manufacturers	3
Call Centers & Answering Services	51
Cameras & Camera Supplies	13
Camping & Backpacking Equipment & Supplies Dealers	1
Canners & Food Processors	10
Cargo Container Manufacturers	12
Catalog Shopping	6
Catering	4
CDs Tapes & Records Retail	2
Cell Phone Equipment & Supplies	51
Cement & Sand & Gravel Manufacturers	22
Certified & Registered Massage Therapists	2
Charitable & Nonprofit Organizations	1
Chauffeured Services	18
Chemical Manufacturers	362
Chemicals Manufacturers	133
Child Care	29
Chimney Cleaning Services	3
Churches & Religious Organizations	329
Civil Engineering Firm	8

Business Types Served by
Sample CLECs Using Verizon Special Access

Category and Number of Circuits	Total
Civil Engineers	24
Cleaning Services	9
Clinical Services - Social & Human Services	12
Clothing & Accessories (Designer) Retailers	28
Clothing & Accessories Manufacturers	182
Clothing & Accessories Retailers	736
Cocoa Processors	1
Cold Storage Warehouses	4
Collection Services	8
Commnuications - Video Conferencing	21
Commodity & Merchandise Warehouses	31
Common & Face Brick Dealers	2
Communications	1469
Communications - Broadcasting	201
Communications - Cable	280
Communications - Cable & Satellite	96
Communications - Cellular	105
Communications - Internet Hosting	34
Communications - ISP	18
Communications - Major Media	53
Communications - Radio	70
Communications - Satellite & Cable	3
Communications - Telecom	5538
Communications - Television	163
Communications - Verizon	1815
Communications - Wireless	2307
Communications & Public Relations	9
Communications & Public Relations Consultants	11
Communications Equipment & Supplies	3
Computer & Equipment Dealers	18
Computer Networking Installation	4
Computer Peripherals - Printers, Laser Printers	9
Computer Supplies Parts & Accessories	13
Computer Systems Consultants & Designers	272
Computer Testing Services	13
Computers	891
Computers - Equipment & Supplies	70
Computers - Equipment Repair & Maintenance	156
Computers & Equipment Repair	9
Computing Solutions	4
Concrete & Concrete Products Dealers	16
Concrete Contractors	4
Conference Call Services	14
Conference Facilities & Convention Centers	11
Construction & Contractors - Doors & Windows	6
Construction & Contractors - Floors & Flooring	33
Construction & Contractors - General	46

Category and Number of Circuits	Total
Contractors	
Construction & Contractors - Roofing	3
Construction Engineers	5
Construction Equipment & Supplies	15
Construction Equipment & Vehicle Rental	3
Construction Management Services	114
Consulting Services - General	1195
Consumer Goods Manufacturers	776
Consumer Goods Retailers	136
Consumer Groups	5
Contractors' Equipment & Supplies Dealers	20
Convenience Stores	83
Conveyor Belting & Belting Supplies Dealers	3
Copying, Printing & Graphics Services	610
Corporate Housing	6
Corrugated & Fiber Boxes Retail	51
Cosmetics	116
Cosmetics Retailers	31
Courier Services	12
Crafts Stores	23
Credit & Debt Counseling Services	25
Credit Collection & Reporting Agency	109
Cryogenics Equipment & Supplies	2
Currency Exchange Services	5
Customs Brokers & Consultants	31
Data Communications Equipment & Systems	13
Dating & Introduction Services	1
Defense Contractors	591
Department Store	47
Department Stores	1800
Design and Engineering	48
Discount Variety Stores	90
Document Management Services	138
Dog & Horse Racing	16
Door & Window Dealers	8
Drug Stores & Pharmacies	887
Dry Cleaners	22
Education - Admin, Boards, Associations	123
Education - Colleges & Universities	1958
Education - Commercial Services	178
Education - K-12 Schools	686
Education - Professional Training/Devel	325
Electric Contractors	34
Electric Equipment & Supplies Dealers	71
Electric Motor Dealers	30
Electrolysis Treatments, Lasers	2
Electronic Equipment	5
Electronic Equipment & Supplies Retail	20

Business Types Served by
Sample CLECs Using Verizon Special Access

Category and Number of Circuits	Total
Electronic Instruments Retail	112
Electronic Research Design & Development	2
Electronic Testing Equipment Dealers	27
Electronics & Appliance Manufacturers	43
Electronics & Appliance Parts & Supplies	41
Electronics & Appliances Manufacturers	203
Electronics and Appliance Retailers	773
Electronics Manufacturers	906
Electronics Wholesale Distributor	35
Elevator Equipment & Services	63
Employment Agencies	803
Employment Agencies - Temp Staffing	113
Engineers	5
Entertainment	154
Entertainment - Movie Studio	28
Envelopes Manufacturers & Wholesalers	6
Environmental & Ecological Consultants	66
Environmental Association	22
Environmental Engineers	26
Environmental Services	26
Equipment Manufacturers	2
Executive Suites	68
Fabrics Stores	14
Family & General Practice Physicians & Surgeons	11
Fast Food Stores	15
Fasteners Wholesale & Manufacturers	8
Feed Fertilizer & Power Equipment	1
Fiber Optic Equipment Systems & Supplies	6
Fiberglass & Materials	5
Financial - Advisor Services	34
Financial - Advisory Services	930
Financial - Banks	12125
Financial - Credit Card Companies	307
Financial - Credit Unions	462
Financial - Electronic Payment Svcs	145
Financial - General Services	5485
Financial - Investment Services	5906
Financial - Loan Service	73
Financial - Loan Services	307
Financial - Mortgage Companies	1846
Financial - Mutual Services	109
Financial - Research Services	10
Finger Printing Services & Equipment	11
Fire Alarms, Extinguishers & Sprinklers	28
Fire Departments	8
Fire Fighters Associations	3
Fireproofing & Firestopping Materials & Supplies	2
Fish & Wildlife	3
Flavoring Extracts	14
Florists	46
Flour Mill	1
Food & Beverage Producers and Distributors	1515
Food & Beverage Providers and Distributors	44
Food & Beverage Retailers	75
Food Preservation Equipment & Supplies	12
Food Processing Equipment & Supplies	11
Footwear Stores	20
Forklift & Industrial Truck Dealers	4
Fragrance & Cosmetics Stores	3
Funeral/Memorial Services	49
Furniture	47
Furniture Stores	195
Garage Doors & Openers	9
Gas Stations	14
General Merchandise Wholesale	36
Genetic Research	1
Genetics Research	16
Geographic Information Services	13
Gift/Houseware Retailers	213
Glass Wholesale & Manufacturers	22
Global Marketing, Communications, & Entertainment	12
Global Positioning System	5
Government	24
Government - Accounting	5
Government - Civil Defense - Power Authority	35
Government - Correctional Facility	90
Government - Courthouse	56
Government - Courts	115
Government - Customs	3
Government - Embassy/Consulate	89
Government - FBI	121
Government - Federal	3585
Government - Federal - Aviation	103
Government - Federal - Communications	48
Government - Federal - Courts	13
Government - Federal - Defense	564
Government - Federal - Defense - Imagery & Mapping	1
Government - Federal - Food & Drug Admin	3
Government - Federal - Geological Surveys	8
Government - Federal - Health & Human Services	127
Government - Federal - House of	28

Business Types Served by
Sample CLECs Using Verizon Special Access

Category and Number of Circuits	Total
Representatives	
Government - Federal - Housing & Urban Development	3
Government - Federal - Info Systems	35
Government - Federal - Labor Relations	3
Government - Federal - Postal Services	13
Government - Federal - Senate	16
Government - Federal - Treasury	36
Government - Foreign	13
Government - Foreign - Consulate	2
Government - Foreign - Embassy	13
Government - General Services Administration	93
Government - Immigration & Customs	9
Government - Local	464
Government - Local - Law Enforcement	42
Government - Local - Taxes & Finance	16
Government - Local - Transportation	138
Government - National Parks & Conservation Land	7
Government - Naval Shipyard	6
Government - Police/Sherriff	23
Government - Printing	16
Government - State	706
Government - State - Lottery	31
Government - State - Sentate	48
Government - State - State Senate	66
Government - Telecommunications	12
Government - Training	3
Government - US Congress Representatives	1
Government - Weather Service	17
Government Contractors - Computer Networks	3
Government Contractors - Computer Systems	4
Government Insurance Carriers	1
Greenhouses and Nurseries	6
Grocery Stores & Supermarkets	2964
Gypsum & Gypsum Products	31
Hair Dressers	5
Hair Restoration	2
Hardware Stores	31
Health & Beauty Products Manufacturers	53
Health & Diet Foods Stores	44
Health & Human Services - Leukemia	3
Health Agencies	2
Health Clubs & Gyms	11
Health Maintenance Organizations	57
Healthcare	1355
Healthcare - Clinics & Medical Centers	457
Healthcare - Dental	133

Category and Number of Circuits	Total
Healthcare - General	3466
Healthcare - Home (Nursing, Convalescent, Rehab)	40
Healthcare - Homes (Nursing, Convalescent, Rehab)	473
Healthcare - Hospitals	1500
Healthcare - Physicians & Surgeons	6
Healthcare - Radiology	56
Healthcare - Research, Labs	356
Healthcare - Vision	85
Heating & Refrigeration Equipment Manufacturers	109
Heating & Ventilating Contractors	24
Heavy Equipment Manufacturers	18
Home Décor Retailers	161
Home Improvement Retailers	209
Home Improvement Services	1
Home Improvement Stores	537
Home Improvement, Repair, Lawns Services	114
Home Products - Siding	19
Hospice	12
Hospital Consultants & Management	1
Hospital Equipment & Supplies Retail	87
Hospitality	33
Hospitality Services	17
Hotel & Motel Equipment & Supplies	4
Hotel Reservations Service Provider	7
Hotel Services	2
Hotels & Lodging	3857
Household Linens & Furnishing Retailers	119
Housing Authority	3
Human Resource Business Services	180
Imaging Equipment Manufacturers	17
Incinerators Parts & Services	6
Industrial Equipment & Supplies	33
Industrial Equipment & Supplies Dealers	60
Industrial Equipment Rental & Leasing	3
Industrial Parks Management	55
Industry - Aerospace	81
Industry - Metals	47
Industry - Mining/Natural Resources	6
Industry - Paper	255
Industry - Power, Fuel, Water, Energy	1736
Industry - Trade Association	146
Information Services	454
Information Technology & Automation	4
Ink Manufacturers' Materials	8
Instruments & Equipment Manufacturers	111

Business Types Served by
Sample CLECs Using Verizon Special Access

Category and Number of Circuits	Total
Insurance	7444
Insurance - Claims Processing Service & Adjusters	2
Insurance - Health Care Services	139
Insurance - Life Insurance	17
Insurance - Title Insurance	98
Insurance - Workers' Compensation Services	16
Interest Groups and Associations	12
Interior Design	4
Internet Services	1037
Investigation Services	16
IT Consulting & Business Services	1919
Jewelry Importers	3
Jewelry Stores	104
Journalism/News Service	145
Journalism/News Services	27
Kitchen & Bath Distributor	27
Labor Relations	1
Labor Unions	21
Laboratories	501
Laboratory Equipment & Supplies	1
Landscape Designers & Consultants	28
Landscape Equipment & Supplies Dealers	74
Landscaping	5
Laundry Service	7
Law Firms & Legal Services	1047
Lawn & Garden Equipment & Supplies	6
Leather Goods Manufacturers	3
Leather Goods Retailers	63
Libraries	126
Lighting Fixtures Manufacturers	8
Lighting Fixtures Retailers	47
Linen Supply Services & Uniforms Retail	26
Lithographers	68
Lumber	41
Mail Order & Catalog Sales	4
Malls & Shopping Centers	91
Management Consulting	478
Manufacturers - General	1394
Manufacturers' Agents & Representatives	28
Materials & Packaging Manufacturers	341
Mechanical Contracting	13
Mechanical Contractors & Engineers	1
Mechanical Equipment & Supplies	4
Media & Communications - Sales Presentations	3
Medical	4
Medical - Blood Bank	5
Medical & Dental X-Ray Laboratories	3

Category and Number of Circuits	Total
Medical Advisors/Consultants	4
Medical Analysis	3
Medical Answering Services	4
Medical Association	1
Medical Billing & Collections Services	13
Medical Centers - Blood Center	6
Medical Consulting	31
Medical Device Manufacturers	19
Medical Equipment	2
Medical Exam Board	1
Medical Information Technology	16
Medical Laboratory	8
Medical Laboratory - Radiology	1
Medical Products and Services	356
Medical Research	39
Medical Services	81
Medical Specialties	46
Medical Specialties - Behavioral Health	18
Medical Specialties - Cancer Foundation	1
Medical Specialties - Cancer Treatment Centers	2
Medical Specialties - Cardiovascular	2
Medical Specialties - Cardiovascular Health	16
Medical Specialties - Cerebal Palsy	15
Medical Specialties - Counseling	1
Medical Specialties - Endoscopy	1
Medical Specialties - Eye Surgery Center	1
Medical Specialties - Home Care	6
Medical Specialties - MRI	25
Medical Specialties - Muscular Dystrophy	12
Medical Specialties - OB-GYN	6
Medical Specialties - Optometry	2
Medical Specialties - Orthopedics	38
Medical Specialties - Radiology	14
Medical Specialties - Ultrasounds	28
Medical Staffing Services	1
Medical Supplies	5
Medical Transcription	4
Merchandising	5
Merchandising Services & Systems	9
Metal Products	53
Metal Stamping Equipment & Supplies	8
Microfilming & Imaging Service Equipment/Supplies	8
Miscellaneous	53403
Mobile Offices & Commercial Units	5
Modeling Agency	1
Modular & Mobile Home & Buildings Dealers	3
Money Orders & Transfer Services	5

Business Types Served by
Sample CLECs Using Verizon Special Access

Category and Number of Circuits	Total
Mortgages	205
Motion Picture Distributors	20
Moving & Storage	103
Museums	72
Music Publishing/Supply	27
Musical Instrument - Rental and Sales	34
Newspaper Publishers	381
Non-Profit Organizations	334
NULL NAME	61222
Office Furniture & Equipment Dealers	44
Office Machinery & Supplies	2
Office Management Services	71
Office Space and Support Services	94
Office Supplies Stores	730
Office Supplies Wholesale & Manufacturers	10
Office Supply Stores	27
Online Services	66
Organ Donation & Tissue Banks	6
Outdoor Advertising & Billboards	2
Outsourcing - Business Management	117
Packaging	7
Packaging & Shipping Services	710
Paint & Paint Products	2
Paint Manufacturers	20
Painting & Paint Supplies	7
Paper Products	1
Parking	11
Parking & Traffic Consultants	4
Parks & Recreation	25
Party Supplies Stores	29
Payroll & Payment Services	233
Payroll Services	10
Perfumes & Colognes Raw Materials & Supplies	4
Pest Control Services	63
Pharmaceuticals	1651
Phone Equipment & Systems Dealers	1
Photographic Equipment & Supplies	28
Photographic Equipment & Supplies Retail	4
Photography Stores	5
Photography Studios & Picture Libraries	3
Physical Therapy	1
Physical Therapy Equipment and Supplies	7
Pipe Fabrication	1
Plastic Products	92
Plastic Raw Materials	1
Plumbing & Heating Supplies	128
Plumbing Services	3

Category and Number of Circuits	Total
Plumbing Supplies	28
Pneumatic Equipment & Suppliers Dealers	10
Pneumatic Tools & Equipment	6
Polyethylene Materials & Products	23
Postal Services	2
Product Packaging Labeling & Shipping	34
Production Studio	17
Property Management	4
Public Housing	1
Publishers	779
Radio Phone Equipment & Systems	24
Real Estate - Agencies	1235
Real Estate - Commercial & Industrial	159
Real Estate - Commerical & Industrial	21
Real Estate - Corporate Housing	17
Real Estate - Developers & Subdividers	89
Recreational Vehicles	6
Recruiting Services	1
Recycling/Conservation Services	24
Rentals - Furniture	5
Rentals - General	99
Rentals and Sales - Heavy Equipment	48
Research	358
Resorts	7
Restaurant Management & Consultants	2
Restaurant Services	2
Restaurants	371
Retail - Pet Supplies	1
Retailers - General	3
Retirement Communities & Homes	49
Road & Highway Construction Machinery & Equipment	8
Robotics	2
Sales Training	2
Salons & Spas	7
Salvage Services	7
Sand & Gravel Dealers & Recycling Centers	18
Saw Sales Sharpening & Repair	3
Science	46
Science - Forensics	2
Science - Health	8
Science - Research	35
Science & Technology	3
Science and Engineering	279
Scientific Instruments & Supplies Dealers	87
Scooters & Powered Chairs	7
Semiconductors	27
Sewing Machines	1

Business Types Served by
Sample CLECs Using Verizon Special Access

Category and Number of Circuits	Total
Shipbuilding	13
Sign Dealers, Display Designers & Producers	8
Social & Human Services Organization	108
Social & Human Services Organizations	11
Social Clubs	2
Social Groups	25
Soda Fountain Equipment & Supplies	10
Software & CD ROM Sales & Services	6
Sound Equipment & Systems Sales Rental & Leasing	3
Space & Navigation	5
Space Communications	5
Space Exploration & Defense	7
Specialty Stores	162
Spices Wholesale & Manufacturers	1
Sporting Goods Retailers	189
Sports	3
Sports - Athletic/Fitness Clubs	229
Sports - Auto Clubs	20
Sports - Baseball	5
Sports - Basketball	32
Sports - Beach Club	1
Sports - Boxing	3
Sports - Clubs/Facilities	24
Sports - Equestrian	1
Sports - Football	15
Sports - Golf/Country Clubs	43
Sports - Hockey	3
Sports - Soccer	3
Sports - Yacht Clubs	4
Sports & Recreation	15
Sports & Recreation - Off-Track Betting	13
Sports & Recreation - Paint Ball	2
Sports & Recreation - Youth & Family Centers	15
Steam Boiler	5
Steamship Companies	4
Steel Manufacturers	77
Stock Exchanges	89
Swimming Pools Manufacturers & Installation	2
Systems & Integration Engineers	1
Tax Return Preparation	147
Taxi Cab Services	2
Technology - Computer Networks	28
Technology - Data	265
Technology - Engineering	187
Technology - General	856

Category and Number of Circuits	Total
Technology - Network	993
Technology - R&D	142
Technology - Software	1112
Technology & Engineering	1142
Technology Research and Development	840
Telecommunications Management	1
Telecommunications Wiring & Cabling	13
Telemarketing	12
Terminal & Container Services	5
Testing Equipment & Supplies Wholesale & Manufacturers	4
Textile & Fabric Manufacturers	97
Title Company	38
Title Insurance/Escrow Services	80
Tobacco & Tobacco Products	19
Tools	5
Tools Wholesale & Manufacturers	2
Tourist Attractions	9
Toy Manufacturers	40
Toy Stores	230
Traffic & Transportation Engineers	9
Translators & Interpreters	2
Transportation	261
Transportation - Airlines	546
Transportation - Bus	33
Transportation - Rail	248
Transportation - Shipping	79
Transportation - Trucking/Freight	766
Travel Agencies & Tourism	835
Vehicle Licensing Service	2
Veterans	3
Veterinary Services	43
Video Production Services	2
Wallpaper Wholesale & Manufacturers	12
Warehouses	30
Waste Management	156
Water Filtration & Purification Equipment Retail	18
Waterworks Equipment & Supplies	3
Wire & Wire Products	2
Wireless Phone Stores	71
Wood Products	21
Wrecking & Demolition Contractors	8
Youth Organizations Centers & Clubs	6
Grand Total	248670

SOURCE APPENDIX

Attachment 6. CLEC Voice Networks by Size of MSA

New Paradigm Resources Group, Inc., *CLEC Report 2004*, Ch. 5 (18th ed. 2004); United States Census Bureau, *Metropolitan and Micropolitan Statistical Areas and Components, December 2003, With Codes* (Feb. 25, 2004), http://www.census.gov/population/estimates/metro-city/0312mfips.txt; United States Census Bureau, *Metropolitan and Micropolitan Statistical Areas and Components, 2003, With Codes* (June 6, 2003), http://www.census.gov/population/estimates/metro-city/03mfips.txt.

Attachment 7. Competitive Fiber Connects to All Major Traffic Aggregation Points

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Attachment 8. CLEC Networks by MSA

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Attachment 9. CLEC Fiber Networks

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