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

In the Matter of	)	
	)	
AT&T Petition for Rulemaking	)	RM 10593
To Reform Regulation of Incumbent	)	
Local Exchange Carrier Rates for	)	
Special Access Services	)	

COMPETITION FOR SPECIAL ACCESS SERVICES

December 2, 2002

INTRODUCTION AND SUMMARY

There is extensive competition in the provision of special access service. Competitors first entered this market more than 15 years ago. They have since deployed extensive local networks in most of the markets where special access demand is concentrated. And even in the areas where competitive facilities are not yet available, competing carriers have been able to compete successfully by reselling special access service purchased from ILECs.

1. *Competitive Access Facilities*. In the time since the Commission granted ILECs pricing flexibility for special access services, competitive fiber networks have grown by more than 80 percent – from approximately 100,000 route miles to at least 184,000 route miles, and the majority of this fiber is local. During that same period, the number of competitive networks in the 150 largest MSAs – which contain nearly 70 percent of the U.S. population – has grown by more than 60 percent, from approximately 1,100 to nearly 1,800. Competing carriers are now providing special access service to at least 330,000 buildings using a combination of their own networks and last-mile facilities obtained from third parties, including ILECs. This includes at least 30,000 buildings that competing carriers serve entirely over their own facilities. And while competitors have claimed that these totals are small relative to the total number of buildings nationwide, a small number of buildings in each metropolitan area typically accounts for a large fraction of the traffic. It has been estimated, for example, that only 200 to 300 out of 15,000 multi-tenant units in a typical large MSA generate 80 percent of the data revenues in that MSA. AT&T, which is by far the largest user of special access, reports that its special access customers are concentrated in 186,000 buildings, which represent just one-quarter of the total number of commercial-office buildings nationwide.

AT&T and WorldCom are the two largest purchasers of special access in the country, and are also the two largest suppliers of competitive access. AT&T's chairman and CEO has recently stated that "AT&T has invested over $20 billion" in its "access layer," and is now able to provide "over 20 percent . . . of our T1-equivalent services . . . on net and we're growing that every day with a real focus at a grassroots, granular level, building by building, address by address, of moving customers over." AT&T reports to investors that it provides more than 27 million voice-grade equivalent special access and private lines. WorldCom – which spent $14 billion to acquire one competitive access provider (and has acquired others as well) – has recently stated that it is able to provide at least 10 percent of its last-mile DS-1 special access circuits over its own facilities or those of other competitive suppliers. Both AT&T and WorldCom also rely on the competitive access facilities of other CLECs. WorldCom "contracts with 41 CLECs" for fiber, while AT&T has "entered into agreements with virtually every major CLEC."

At the same time that competing carriers have been expanding their local fiber networks, there has been a rapid increase in local fiber supplied by "carrier-agnostic" wholesale suppliers. These companies have raised several billion dollars in capital and have deployed networks in most of the major markets. And while some of these companies have experienced financial difficulties, that is due at least in part to the difficulty of competing against below-cost UNEs, which devalue these suppliers' significant investments. In any event, the wholesale fiber suppliers that have sought bankruptcy protection are still operating their networks, many are now emerging from bankruptcy, and others have weathered the recent slowdown and continue to add

customers and new networks. Many utility companies – which according to one source control as much as 35 percent of the nation's fiber infrastructure – also are now supplying local fiber to competing carriers. So are several of the largest operators of long-haul fiber networks.

2. *Use of ILEC Special Access Service*. In addition to using their own facilities or those of other competitive suppliers, CLECs and IXCs are purchasing a large number of special access circuits from ILECs that they are reselling to end-user customers together with their own facilities or services. Competitors are purchasing far more high-capacity circuits as special access service than as unbundled network elements. In Verizon's region, for example, competing carriers have obtained more than twice as many high-capacity circuits (DS1s and above) as special access than as unbundled network elements in 2002. Several competing carriers in Verizon's region purchase all of their high capacity circuits exclusively as special access, and many others rely predominantly on special access to satisfy their demand for high-capacity circuits.

3. Competitive Special Access Lines and Revenues. As the Commission has recognized, special access competition is properly measured by the availability of competitive alternatives, rather than by the number of customers that have actually chosen those alternatives. The fact that competitors have managed to capture substantial numbers of special access lines and large amounts of special access revenues nonetheless provides additional confirmation that competitive alternatives for special access are widespread.

According to information they report to investors – but that is excluded from the local competition data reported by the FCC – competing carriers now provide at least 140 million voice-grade equivalent lines as special access and private lines. To put these totals in perspective, the Bell companies collectively serve only about 80 million voice-grade equivalent special access lines, including those provided to competing carriers. Assuming that the BOCs provided approximately 44 percent (35 million) of their voice-grade equivalent special access lines directly to end users – which is the same percentage of special access revenues they generate from end-users – means that competing carriers are providing roughly 95 million voice-grade equivalent special access and private lines *entirely* over their own facilities or those of competitive suppliers.

Competing carriers as a whole earned approximately $10 billion in special access and private line revenues in 2001 according to the leading independent study of the CLEC industry, which the CLECs' own trade associations have repeatedly endorsed. The comparable figure for the Bell companies is approximately $18 billion. Based on these figures, CLECs have captured more than one-third of all revenues for special access services.

4. *Competition for Services that Use Special Access as an Input*. While competitors have long claimed that ILECs have theoretical incentives to discriminate in the provision of special access, the extensive and growing competition for services that rely on special access as an input proves that no such discrimination is actually occurring. The big three interexchange carriers dominate the provision of long distance, ATM, and Frame Relay services to large businesses, while the Bell companies are only minor players. In the provision of local services to business customers, CLECs have already captured between 17 and 24 million switched lines, and these totals are growing rapidly.

I. SPECIAL ACCESS COMPETITION

Special access "involves the provisioning of so-called 'private lines,' that is, facilities or network transmission capacity dedicated to the use of an individual customer."[1] The Commission opened special access to competition in the 1980s, a full decade before passage of the 1996 Act. Having had a long time to develop, competition for special access is now mature. As demonstrated in Table 1, the Commission has acknowledged extensive competition in the provision of special access for more than a decade.

The main purchasers of special access service are "IXCs and large businesses, not residential or small business end users."[2] In the case of Verizon, for example, more than 80 percent of its special access revenue is generated from high-capacity circuits (*i.e.*, DS-1 or above), which the Commission has recognized "are primarily used by business customers."[3] Interexchange carriers – which use special access to transport large volumes of traffic to and from their largest business customers – account for approximately 60 percent of Verizon's special access revenue.

Special access has traditionally been used primarily to establish connections between end users and *interstate* networks. The Commission has defined special access as the "variety of services and facilities which constitute the local portion of certain interstate telecommunications lines."[4] Special access circuits "run directly between [an] end user and [an interexchange carrier's] point of presence (POP),"[5] or directly between two end-user locations. Interexchange carriers "typically provide resold special access and private line services as part of toll service operations."[6]

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[1] *Investigation of Special Access Tariffs of Local Exchange Carriers*, 8 FCC Rcd 4712, ¶ 2 (1993) ("*Special Access Tariff Order*").

[2] *Access Charge Reform; Price Cap Performance Review for Local Exchange Carriers; Interexchange Carrier Purchases of Switched Access Services Offered by Competitive Local Carriers; Petition of U S WEST Communications, Inc. for Forbearance from Regulation as a Dominant Carrier in the Phoenix, Arizona MSA*, Fifth Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd 14221, ¶ 142 (1999) ("*Pricing Flexibility Order*"); *see also WorldCom v. FCC*, 238 F.3d 449, 453 (D.C. Cir. 2001) ("Most users of special access services are companies with high call volumes.").

[3] *See, e.g., Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, Second Report, 15 FCC Rcd 20913, ¶ 99 (2000).

[4] *Special Access Tariff Order* ¶ 2.

[5] *Pricing Flexibility Order* ¶ 8.

[6] Ind. Anal. Div., FCC, *Local Telephone Competition at the New Millennium* at Table 6 note **** (Aug. 2000).

Table 1. FCC Findings that Special Access Is Competitive
1990 "New facilities-based competition has emerged in the high capacity special access market."
1991 "Intensified interstate long-distance competition, when combined with the American Telephone and Telegraph Company's (AT&T's) divestiture of the Bell Operating Companies (BOCs) and the implementation of federal equal access and access charge systems, have greatly increased interexchange carrier (IXC) and end user incentives to seek lower cost options for interstate access . . . Fiber-based carriers, sometimes described as Competitive Access Providers (CAPs), now offer access services to large business customers in the central business districts of many major cities."
1991 "But now, fiber-based Competitive Access Providers (or CAPs) are also successfully offering access services to large corporate customers in the central business districts of many American cities . . . Customers are also starting to use radio-based facilities as technologies provide even more alternatives, and some do not use LEC facilities at all to connect their customer location directly with their long-distance carrier."
1992 "We are granting the LECs increased pricing flexibility to respond to competition for special access services."
1992 "Even without expanded interconnection, LECs are already facing access competition, for example, as reflected in the proliferation of 'closet POP' arrangements."
1992 "[A] growing number of Competitive Access Providers (CAPs) have entered the access market in recent years, deploying fiber-optic rings or, in some cases, microwave systems, to serve the needs of large communications-intensive businesses, predominantly in metropolitan centers. CAPs have formed strategic partnerships with and attracted major investments from cable television companies, electric utilities, large construction firms, and other entities with extensive financial resources. At present, CAPs generally are limited to providing end-to-end interstate special access connections, for example, between customer premises and interexchange carrier (IXC) points of presence (POPs), completely bypassing LEC facilities."
1995 "There is growing evidence that an increasing variety of local telecommunication services is available on a competitive basis. This trend is most pronounced in larger urban areas where new entrants appear to be marketing their transport and other local services to high-volume toll users that offer the most lucrative returns."
1995 "One of the most exciting and dynamic segments of the telecommunications industry is alternative local service providers. The firms in this market segment started out as CAPs. They began by building high-capacity fiber optic facilities for customers with large volumes of communications traffic. The initial fiber facilities – usually in the form of a ring or loop through a central business district – connected customers to a hub where traffic could be concentrated and turned over to interexchange carriers. The industry experienced incredible growth, nearly doubling in size each year for the last five years."
1996 "Competitors have begun to provide exchange access services, aided in significant part by our expanded interconnection policies."
1998 "Recent statistics support the conclusion that incumbent LECs are facing increasing competition from new entrants in the market for . . . exchange access services to larger business customers. . . . Interconnected CLECs appear to have gained at least 40 percent of the high capacity special access market in the New York City central offices in which they are located, including 10 of 11 central offices below 59th Street in Manhattan."
1998 "CLECs, many of which began as competitive access providers (CAPs), have been most successful in the market for specialized services. In 1997, CLECs reported about 14% of the total special access lines and local private lines services provided to other carriers."
2000 "Competitive access, which originated in the mid-1980s, is a mature source of competition in telecommunications."
2000 "[T]he revenues of competitive LECs come primarily from special access and local private line services rather than from switched service to end users."
Sources: See Appendix A.

In recent years, some competing carriers – including AT&T and WorldCom – have also begun to purchase special access service from ILECs to establish dedicated connections between end users and the competitors' own *local* network facilities, including their local switches and fiber rings. These competing carriers are using special access as a substitute for unbundled high-capacity loops and loop and transport combinations (*i.e.*, EELs) in order to provide switched as well as dedicated local services to large business customers.[7]

Regardless of how it is being used, the demand for special access is highly concentrated. In Verizon's region, for example, more than 85 percent of special access revenues is generated from about 20 percent of Verizon's total wire centers.[8] This reflects the fact that the ultimate customers of special access service – large businesses – are themselves highly concentrated. For example, it is estimated that just four MSAs – New York, San Francisco, Washington, D.C., and Los Angeles – generate some 40 percent of all data revenues nationwide.[9] According to AT&T, its local facilities in 92 U.S. cities reach 70 percent of the local market.[10] AT&T – which serves more than half of the entire long distance market – provides special access service to 186,000 office buildings[11] out of a total of about 739,000 commercial office buildings nationwide.[12]

The demand for special access has been growing rapidly, driven in large part by the rise in data traffic. For example, at the time the Commission granted ILECs pricing flexibility for their special access service in late 1999, ILECs and competing carriers reported approximately $16 billion in special access and private line revenues.[13] As of year-end 2000, that total had grown to approximately $22 billion – a 36 percent increase.[14] Competing carriers' and ILECs' special access revenues increased by roughly the same percentage during that period.

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[7] *See, e.g.*, Petition for Rulemaking at 14-15, *AT&T Petition for Rulemaking To Reform Regulation of Incumbent Local Exchange Carrier Rates for Special Access Services*, RM 10593 (FCC filed Oct. 15, 2002) ("*AT&T Petition*").

[8] These totals are for Verizon East – that is, the former Bell Atlantic territory.

[9] *UNE Fact Report 2002* at IV-3 & n.10, *attached to* Comments and Contingent Petition for Forbearance of the Verizon Telephone Companies, *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket Nos. 01-338 *et al*. (FCC filed Apr. 5, 2002) (citing Lehman Brothers and McKinsey & Co., *The Future of Metropolitan Area Networks* at 8 (Aug. 24, 2001)) ("*UNE Fact Report 2002*").

[10] David Dorman, Chairman and CEO-Elect, AT&T, presentation at the UBS Warburg Global Telecom Conference, at 7 (Nov. 11, 2002), http://www.att.com/ir/pdf/20021111_dorman.pdf.

[11] Declaration of Kenneth Thomas ¶ 3, *attached to AT&T Petition* ("*AT&T's Thomas Decl.*").

[12] *See* Energy Information Administration, U.S. Dep't of Energy, *1999 Commercial Buildings Energy Consumption Survey – Commercial Buildings Characteristics* at Table B1 (Summary Table: Totals and Means of Floorspace, Number of Workers, and Hours of Operation, 1999), http://www.eia.doe.gov/emeu/cbecs/pdf/b1.pdf (rel. May 2002). The Department of Energy defines commercial "office" buildings to include "administrative or professional office[s]." Energy Information Administration, U.S. Dep't of Energy, *Description of CBECS Building Types*, http://www.eia.doe.gov/emeu/cbecs/char99/building_types.html.

[13] New Paradigm Resources Group, Inc., *CLEC Report 2002*, Ch. 3 at Table 13 (16th ed. 2002) (dedicated access & private line revenues for CLECs) ("*CLEC Report 2002, 16th ed.*"); Ind. Anal. Div., FCC, *Telecommunications Industry Revenues 1999*, at 11 (Table 5, Lines 305 & 312) and 15 (Table 6, Lines 406 & 415) (Sept. 2000) ("*FCC Telecommunications Industry Revenues, 1999 ed.*").

[14] *CLEC Report 2002, 16th ed.*, Ch. 3 at Table 13 (dedicated access & private line revenues for CLECs); Ind. Anal. Div., FCC, *Telecommunications Industry Revenues 2000* at 13 (Table 5, Lines 305 & 312) and 17 (Table

Today, there is extensive competition in the provision of special access service. *See* Table 2. Competing carriers now have extensive local networks in place in most of the markets where special access demand is concentrated. A number of wholesale fiber suppliers also serve most major markets. And even in the areas where competitive facilities are not yet available, CLECs have been able to compete successfully by reselling special access service purchased from ILECs. CLECs now provide more than 140 million voice-grade equivalent special access and private lines using either their own facilities, the facilities of other competitive suppliers, or by reselling ILEC special access service. CLECs including the major IXCs account for one-third or more of all special access revenues, and their share of the market has been growing steadily.

Table 2. Special Access Competition (as of YE 2001)	
CLEC fiber route miles (local and long-haul)	184,000
CLEC networks in top 150 MSAs	1,800
CLEC buildings served on-net	30,000
CLEC buildings served off-net	300,000
CLEC voice-grade-equivalent special access lines	140 million
CLEC special access and private line revenues	$10 billion
Sources: *See* Appendix A.	

A. Competitive Providers of Special Access Service

The first "competitive access provider," Teleport Communications Group (TCG), was formed in 1984, shortly after the breakup of the Bell System. TCG immediately began to build a fiber-optic network in lower Manhattan, to provide special access service to business customers. In 1986, the Commission affirmed that exchange access is an interstate service, and preempted "any *de facto* or *de jure* barrier to entry" established by state regulation.[15] By 1997, TCG's annual report would claim that it was one of AT&T's "preferred national supplier[s]" of special access services.[16] Shortly thereafter, AT&T acquired TCG for $11 billion.[17]

Other competitive access providers developed equally successfully during that period.[18] Institutional Communications Company (ICC), the second major CAP, was formed in 1986 in

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6, Lines 406 & 415) (Jan. 2002) ("*FCC Telecommunications Industry Revenues, 2000 ed*."). According to the New Paradigm Resources Group, CLEC special access and private line revenues has increased by approximately 60 percent between 1999 and 2001. *See CLEC Report 2002, 16th ed*., Ch. 3 at Table 13.

[15] *Cox Cable Communications, Inc., Commline, Inc., and Cox DTS, Inc.*, Memorandum Opinion, Declaratory Ruling, and Order, 102 FCC2d 110, ¶ 40 (1985), *vacated as moot*, 61 Rad. Reg. 967 (1986).

[16] Teleport Communications Group, Form 10-K405 (SEC filed Mar. 27, 1997).

[17] *See* AT&T News Release, *AT&T Completes TCG Merger* (July 23, 1998); S. Schiesel, *AT&T to Pay $11.3 Billion for Teleport*, N.Y. Times at D1 (Jan. 9, 1998).

[18] As a CLECs' own economist describes it: "Beginning in the late 1980s, the competitive access providers . . . began to construct fiber ring facilities in the central business districts . . . of many urban areas in order to supply the IXCs and their customers with alternatives to ILEC provided special access services. Large IXCs have vertically integrated into the special access business in order to provide dedicated circuits to their largest customers in certain

Washington, DC.[19] In 1987, Chicago Fiber Optic (soon to be MFS) began building a network to provide special access in downtown Chicago.[20] In 1991, ICC was acquired by MFS.[21] And in December 1996, MFS itself was acquired by WorldCom for $14 billion.[22]

From 1984 until 1992, most special access competition took the form of direct connections between large end users and IXC POPs. Competitors had deployed nearly 2,000 route miles of fiber by 1992,[23] prompting the Commission to declare that CAPs "now offer access services to large business customers in the central business districts of many major cities" and that many customers "do not use LEC facilities at all to connect their customer location directly with their long-distance carrier."[24]

In 1992, the Commission opened a second pathway to special access competition: It required incumbent LECs to provide collocation to competitive access providers.[25] This permitted special access competitors to collocate in an ILEC central office and construct a fiber entrance facility between the office and IXC POPs. By 1995, competitors had deployed more than 21,000 route miles of fiber and were already earning over $500 million in special access/private line revenues.[26] The Commission noted that year that the competitive access industry had "experienced incredible growth, nearly doubling in size each year for the last five years."[27] By 1997, one analyst would note that AT&T was "giv[ing] *more than half* of all of its local dedicated access orders to the CLECs, as opposed to the ILECs."[28] As demonstrated in Table 3, interexchange carriers continue to rely extensively on competitive access networks.

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parts of the country." Daniel Kelley, HAI Consulting, Inc., *Deregulation of Special Access Services: Timing Is Everything* at 7-8 (June 25, 1999), *attached to* Ex Parte filing of the Association of Local Telecommunications Services, CC Docket No. 99-24 (FCC filed July 1, 1999).

[19] *See* New Paradigm Resource Group, Inc., *The 1999 CLEC Report*, Ch. 2 at 3 (10th ed. 1999).

[20] *See id.*

[21] *See id.*

[22] *See* WorldCom Press Release, *WorldCom, Inc. and MFS Announce Merger to Form Premier Business Communications Company* (Aug. 26, 1996).

[23] *See* Ind. Anal. Div., FCC, *Fiber Deployment Update, End of Year 1996* at Table 14 (1997).

[24] *Expanded Interconnection with Local Telephone Company Facilities*, Notice of Proposed Rulemaking and Notice of Inquiry, 6 FCC Rcd 3259 ¶ 2 (1991); Remarks by Richard M. Firestone, Chief, Common Carrier Bureau, FCC, Ninth Annual FCBA/PLI Conference, *Telecommunications Policy and Regulation* (Dec. 2, 1991).

[25] *See Expanded Interconnection with Local Telephone Company Facilities*, Report and Order, 7 FCC Rcd 7369 (1992).

[26] *See* Connecticut Research, *1995/96 Local Telecommunications Competition*, at Table II-2 (7th ed. 1995) New Paradigm Resources Group, Inc., & Connecticut Research, *1997 Annual Report on Local Telecommunications Competition*, at Table 13 (8th ed. 1996).

[27] FCC News Release, *Common Carrier Competition*, 1995 FCC LEXIS 3544 (May 31, 1995).

[28] F.J. Governali, *et al.*, Credit Suisse First Boston Corp., Investext Rpt. No. 2563177, Teleport Communications Group, Inc. – Company Report at *6 (July 7, 1997) (emphasis added).

Table 3. IXC Use of Competitive Access Networks
"**Teleport** Communications of New York, for example, has been successful in marketing its services to interexchange carriers. . . In 1988, Teleport reported that more than 70% of the network capacity in use had been leased to interexchange carriers. . . **ICC** in Washington had a similar experience. Its first large contracts were with the interexchange carriers."
"**[AT&T]** will continue to pursue arrangements with [companies other than incumbent local exchange carriers] that provide access to customers."
"**Brooks Fiber** . . . and **AT&T**, jointly announced today that the companies have significantly expanded their existing contractual relationship in an agreement which allows for Brooks Fiber to provide AT&T dedicated access services in six additional cities over its networks."
"**AT&T** now gives more than half of all of its local dedicated access orders to the CLECs, as opposed to the ILECs."
Bob Annunziata, then President of AT&T's Business Services Group, "stated that AT&T was meeting its target of $1.1 billion of **TCG/AT&T** synergies (about 50% from operating expense savings, *30% from network and access savings* and 20% from revenue synergies)."
"Included in the synergies [of the **MCI/WorldCom** merger] are . . . $113 million from savings in dedicated and switched access, private line and WATS."
"**Sprint** LDD has several years' experience using access facilities provided by competitive access providers ('CAPs') . . . 43% of Sprint LDD's DS3 dedicated access customers, who are able to choose their access provider, have selected a CAP."
"Given its desire, wherever feasible, to reduce its dependence on ILECs as sole suppliers of access facilities, **Sprint's** long distance unit made several attempts to utilize competitive access providers ("CAPs"). Ultimately, Sprint made significant use of CAPs, and designated CAPs as Sprint's preferred provider of special access in five metropolitan areas: New York, Denver, Charlotte, Miami, and Fort Lauderdale."
"**MCI WorldCom** is committed to using alternatives to the ILECs for its transport needs wherever possible. Wherever feasible, MCI WorldCom selects transport from an alternative provider."
"Long distance carriers have obtained lower cost access from competitive providers, allowing them to offer lower rates. **AT&T** and **MCI WorldCom** are the two largest providers of competitive access in the industry today (they are their own largest customers)."
"**WorldCom** contracts with 41 CLECs" for competitive access provisioning.
"**Sprint** reported high capacity alternate access vender [sic] (AAV) alternatives to 29,884 . . . commercial buildings nationwide."
"In order to reduce access costs, **Sprint** now fully considers [the] capabilities [of its major long distance competitors] whenever it needs alternate sources of supply [of special access loops]."
"**AT&T** has undertaken a comprehensive plan to convert interoffice facilities to alternative providers when possible. While AT&T continues to look for additional opportunities for such conversion, in general AT&T has taken advantage of such alternatives where possible."
While "**AT&T** generally seeks alternate providers that can provide facilities nationwide," it "occasionally uses a small-scope supplier in order to accommodate specific customer requirements."
"AT&T's experience confirms that in a significant percentage of high volume building locations in which AT&T operates there is at least one other CLEC/CAP present."
"Besides the Tier 1 ISPs, much of [Time Warner Telecom's] revenue (**AT&T** is the largest customer) is derived from other telephone companies that can' provision such [dedicated transport] capacity."
Sources: See Appendix A.

Today, there are a large number of competing carriers providing special access services throughout the country.[29] According to one public source, at least 16 CLECs earned $20 million or more in annual special access revenues in 2001.[30] *See* Table 4.

[29] *CLEC Report 2002, 16th ed.*, Ch. 6.

[30] *Id.*

Table 4. Major Competitive Providers of Special Access			
Company	**Special Access Revenue (2001, in millions)**	**Company**	**Special Access Revenue (2001, in millions)**
AT&T	$2,880	McLeodUSA	$91
WorldCom	$2,207	KMC Telecom	$90
Qwest	$480	General Comm., Inc.	$71
Time Warner Telecom	$384	Adelphia Bus. Solutions	$62
XO Communications	$378	BTI Telecom	$48
IDT/WinStar	$190	NTS Communications	$45
ICG Communications	$165	Cablevision Lightpath	$28
ITC^DeltaCom	$96	Cox Communications	$21
Source: NPRG. *See* Appendix A.			

The two largest interexchange carriers – AT&T and WorldCom – are also the two largest CLECs. They provide access services to themselves and are their own largest customers.[31] Some of the largest independent CLECs, such as ICG, started out as competitive access providers, and special access services remain a major source of their revenue and profit.[32] Some of the newer CLECs, such as KMC Telecom, put a heavy business emphasis on special access, too.[33] As the FCC has found, special access and local private line services represent one of the largest single components of CLEC revenue.[34]

[31] *See, e.g.*, E. Strumingher, PaineWebber, Inc., Investext Report No. 2930537, *Telecom Services: Industry Update – Industry Report* at *5 (Aug. 19, 1999) ("AT&T and MCI WorldCom are the two largest providers of competitive access in the industry today (they are their own largest customers)"). As demonstrated below, AT&T and WorldCom have more recently acknowledged that they rely extensively on their own competitive access facilities. *See* page 11 & nn.46-48, *infra*.

[32] *See* ICG Communications, *The Long (in Dog Years) History of ICG*, http://www.icgcomm.com/company/history.asp; *CLEC Report 2002, 16th ed.*, Ch. 6 – ICG at 6, e.spire at 3, 5.

[33] *See id.*, Ch. 6 – KMC at 4, US LEC at 5.

[34] *Promotion of Competitive Networks in Local Telecommunications Markets*, First Report and Order and Further Notice of Proposed Rulemaking in WT Docket No. 99-217, Fifth Report and Order and Memorandum Opinion and Order in CC Docket No. 96-98, and Fourth Report and Order and Memorandum Opinion and Order in CC Docket No. 88-57, 15 FCC Rcd 22983, ¶ 24 (2000) ("the revenues of competitive LECs come primarily from special access and local private line services."); *CLEC Report 2002, 16th ed.*, Ch. 3 at Table 13 (nearly 20 percent of CLEC revenues are from the provision of dedicated access and private line services).

B. Competitive Access Facilities

Competing carriers now have extensive local networks in place in most of the markets where special access demand is concentrated. These networks typically connect to multiple interexchange carrier POPs and are routinely used to provide special access services.[35]

Competitors provide special access services over their networks using both "on-net" and "off-net" connections. In an on-net connection, the competing carrier extends its metropolitan fiber ring directly to an end-user's premises (*e.g.*, an office building). To the extent that a specific building or location is not served by the ring, the carrier may deploy a "lateral" extension to establish the connection. WorldCom, for example, states that it will "install[] a diverse lateral to buildings located within a mile of an existing ring" so long as that building contains sufficient demand.[36] AT&T has recently stated that its extending its metropolitan fiber networks "through a variety of means, not just optically, but also with radio and free-based optics – any way we can get customers on net, we're looking at doing."[37]

In an off-net connection, a competing carrier connects its metropolitan fiber ring to an end user through a special access circuit obtained from a third-party supplier – either another CLEC, a wholesale fiber supplier, or an ILEC. In many cases, the competitor will obtain the special access circuit for only the last-mile connection (*i.e.*, the channel termination) that runs between the end user and the carrier's network. The competing carrier then uses its own network facilities to provide the connection to an interexchange carrier's POP (*i.e.*, the entrance facility).

Competing carriers typically rely on a mix of off-net and on-net connections to provide special access service. They also rely on multiple providers for special access transport in different markets.[38] For example, WorldCom recently acknowledged that it "contracts with 41 CLECs" for fiber.[39] AT&T has likewise "entered into agreements with virtually every major CLEC."[40] Time Warner Telecom's largest customers are WorldCom and AT&T.[41] A Web-

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[35] For example, of the 36 CLECs listed with fiber networks in New Paradigm's *CLEC Report 2002*, at least 27 report special access and private line revenues. *See CLEC Report 2002, 16th ed.*, Ch. 4 at Table 16 & Ch. 6.

[36] WorldCom, *Hi-Cap Competition*, at 5 (Oct. 7, 2002), *attached to* Ex Parte Letter from R. Milkman to M. Dortch, CC Docket Nos. 01-338 *et al.* (Oct. 7, 2002) ("*Hi-Cap Competition*"); *see also UNE Fact Report 2002* at IV-5.

[37] David Dorman, President, AT&T, *Presentation at the Goldman Sachs Communacopia Conference*, Transcript of Remarks (Oct. 2, 2002) ("*Transcript of Dorman Oct. 2002 Goldman Sachs Presentation*").

[38] *See, e.g.*, Reply Comments of Conversent Communications, LLC at 7-8, CC Docket No. 01-338 (FCC filed July 17, 2002) (stating that it purchases dedicated transport and dark fiber from three competitive providers, and that it "can and does" self-provision dark fiber); Declaration of Anthony Fea and Anthony Giovannucci on Behalf of AT&T Corp. ¶ 49 n.23, *attached to* Reply Comments of AT&T Corp., CC Docket No. 01-338 (FCC filed July 17, 2002) ("AT&T has undertaken a comprehensive plan to convert interoffice facilities to alternative providers when possible. While AT&T continues to look for additional opportunities for such conversion, in general AT&T has taken advantage of such alternatives where possible.") ("*AT&T's Fea/Giovannucci Triennial Review Decl.*"); *id.* ¶ 50 (While "AT&T generally seeks alternate providers that can provide facilities nationwide," it "occasionally uses a small-scope supplier in order to accommodate specific customer requirements.").

[39] WorldCom, *Hi-Cap Competition* at 6.

[40] *AT&T's Thomas Decl.* ¶ 5.

[41] Time Warner Telecom, Form 10-Q (SEC filed Aug. 14, 2002).

based trading pit for metropolitan fiber now includes over 35 fiber wholesalers listing "over 10,000 *local* route miles" of fiber[42] in more than 60 cities.[43]

Many CLECs also operate as interexchange carriers and provide long distance service bundled with special access service over their own access facilities (*i.e.*, they "self-supply" access).[44] AT&T and WorldCom – the two largest interexchange carriers – have acquired extensive local access networks for precisely that purpose. AT&T's chairman and CEO has recently stated that "AT&T has invested over $20 billion" in its "access layer,"[45] and is now able to provide "over 20 percent . . . of our T1-equivalent services . . . on net and we're growing that every day with a real focus at a grassroots, granular level, building by building, address by address, of moving customers over."[46] With its "core platform investments" now "behind" it, AT&T claims it has "scale and ubiquity" in the provision of local access.[47] WorldCom – which spent $14 billion to acquire one competitive access provider – has recently stated that it is able to provide at least 10 percent of its last-mile DS-1 special access circuits over its own facilities or those of other competitive suppliers.[48] Other interexchange carriers – including Qwest and Sprint – also have deployed competitive local facilities to self-supply access.[49]

As these facts demonstrate, special access competition has been developing in much the same way that long distance competition emerged. MCI and Sprint first began competing against AT&T by deploying facilities on select point-to-point routes, and then filling in the gaps by obtaining service from AT&T at resale.[50] MCI and Sprint first built facilities in the largest and most profitable markets, and then gradually expanded into smaller markets from there. Following this approach, these competitive carriers were ultimately able to construct nationwide long-haul networks that rivaled AT&T's, and did so all without unbundling or TELRIC rates. Just like the early long distance competitors, special access providers are using a combination of their own facilities and resale of incumbent services. And, as demonstrated below, this has led to

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[42] D. Mohney, *Fiberloops.com – One-stop Shopping*, ispworld.com (Aug. 22, 2000).

[43] Fiberloops.com, *Find Fiber and Facilities Fast*, http://www.fiberloops.com/Fiberloops/home.html.

[44] *See* Declaration of Michael Pfau on Behalf of AT&T Corp. ¶ 16, *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (FCC filed Apr. 30, 2001) (acknowledging that the access that AT&T and WorldCom supplied to themselves in 1999 was worth approximately $900 million) ("*AT&T's Pfau 2001 Special Access Decl.*").

[45] *Transcript of Dorman Oct. 2002 Goldman Sachs Presentation*.

[46] *Transcript of Dorman Oct. 2002 Goldman Sachs Presentation*.

[47] David Dorman, President, AT&T, presentation at the Goldman Sachs Communacopia conference, at 6 (Oct. 2, 2002), http://www.att.com/ir/pdf/20021002_dorman.pdf.

[48] Ex Parte Letter from Henry Hultquist, WorldCom, to Marlene Dortch, FCC, CC Docket No. 01-338, at 2 (Oct. 29, 2002).

[49] *See, e.g.*, Qwest Press Release, *Qwest Communications Completes 25 Local Broadband Networks, Beating Own Deadline by Seven Months* (June 21, 2001) (Qwest operates "local broadband networks in 25 major markets outside its 14-state local service territory."); Sprint Corp., Form 10-K (SEC filed Mar. 4, 2002) ("Sprint [] is implementing a metropolitan area network (MAN) strategy through the lease and purchase of dark-fiber rings in key U.S. cities. This fiber-optic infrastructure is expected to enable Sprint to reduce local access costs in the future.").

[50] *See, e.g.*, *Regulatory Policies Concerning Resale and Shared Use of Common Carrier Domestic Public Switched Network Services*, 83 FCC 2d 167 (1980); *Specialized Common Carrier*, 29 FCC 2d 870 (1971).

massive investment in competitive facilities, while at the same time permitting competitors to compete in the areas where those facilities have not yet been deployed.

CLEC Networks. At the time the Commission granted ILECs pricing flexibility for special access services, CLEC fiber networks spanned approximately 100,000 route miles (both local and long-haul).[51] Today, CLEC networks consist of at least 184,000 route miles of fiber (both local and long-haul).[52] While many CLECs do not publicly report how many purely local route miles of fiber they operate, information from CLECs that do release such totals confirms that the majority of this fiber is local.[53]

Since the time the Commission granted ILECs pricing flexibility for special access service, the number of "operational" and "on-net" CLEC networks in the 150 largest MSAs – which contain nearly 70 percent of the U.S. population[54] – has grown from approximately 1,100 to nearly 1,800.[55] *See* Table 5. These are networks that consist entirely of the CLEC's own facilities, or that use the CLEC's facilities in combination with the facilities of other suppliers, including other CLECs, carrier-agnostic wholesale suppliers, or ILECs. Today, 91 of the top 100 MSAs are served by at least three CLEC networks; 77 are served by at least seven, 59 are served by at least 10.[56]

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[51] *See CLEC Report 2000*, Ch. 6 at Table 5 (restated 1998 route miles). As described in the following note, the latest NPRG report excludes fiber for competitive Independent Operating Companies, utility CLECs, data providers, and Gig-E providers. To make an apples-to-apples comparison with the 2001 totals, this report removes from the 1998 totals the fiber for carriers that NPRG has placed in one of these categories.

[52] New Paradigm Resources Group, Inc., *CLEC Report 2002*, Ch. 4 at Table 14 (15th ed. 2002) ("*CLEC Report 2002, 15th ed.*"). This is a highly conservative estimate. It does not include 117,000 route-miles of fiber that NPRG lists for competitive Independent Operating Companies, utility CLECs, data providers, or Gig-E providers. Moreover, the total miles for 2001 have been adjusted downward to address the concerns that CLECs raised in the Special Access proceeding in April 2001 (CC Docket No. 96-98).

[53] For example, of the 33 CLECs for which NPRG provides fiber-route miles, there are only four examples (Adelphia, McLeod, Time Warner Telecom, and XO) where, based on CLECs' own public disclosures, the total route miles reported by NPRG appear to include significant amounts of long-haul fiber. At the same time, the total route miles reported by NPRG are *lower* than local-only route-mile totals provided by at least two CLECs (AT&T and Cablevision) and do not include any fiber route miles for WorldCom, which is one of the two largest CLECs.

[54] Rand McNally, *Commercial Atlas and Marketing Guide 2001* at 60-61, 83 (132nd ed. 2001).

[55] These totals count all "voice networks" and "data networks" that NPRG's *CLEC Report 2002, 15th ed.* lists as "operational."

[56] *See UNE Fact Report 2002*, App. K. In the course of the Triennial Review proceeding, only one CLEC (NewSouth) contested this showing of where CLEC networks have been deployed. Those claims – which, even if true, have only a minimal effect on these totals – have been addressed elsewhere. *See* Ex Parte Letter from Whit Jordan, BellSouth, John W. Kure, Qwest, Jay Bennett, SBC, and W. Scott Randolph, Verizon, to Marlene H. Dortch, FCC, CC Docket Nos. 01-338, 96-98, and 98-147 (Sept. 4, 2002).

Table 5. Average Number of CLEC Networks by MSA	
MSA Rank	**CLEC Networks (2001)**
1-25	32.2
26-50	15.0
51-75	9.0
76-100	6.6
101-125	4.8
126-150	3.4
Source: NPRG. *See* Appendix A.	

Most CLECs do not report how many buildings their fiber networks serve.[57] Public data are available for only about 20 CLECs;[58] as of year-end 2001 this small subset of CLECs operated networks that served approximately 330,000 buildings.[59] This figure includes "off-net" buildings – buildings served in part using facilities leased or resold from another competing carrier or an ILEC. As explained above, however, when CLECs provide special access service to "off-net" buildings they are doing so, in part, with their own facilities. CLECs have estimated that the number of unique office buildings served *entirely* by their fiber networks (*i.e.*, "on-net" buildings) is roughly 30,000 nationwide.[60] And that total is constantly increasing. For example, AT&T has recently acknowledged that it continues to expand its local fiber network "every day with a real focus at a grassroots, granular level, building by building, address by address."[61]

While CLECs have argued in the past that the number of buildings served by CLEC fiber is small relative the total number of buildings nationwide, a small number of buildings in each metropolitan area typically account for a large fraction of the traffic. It has been estimated, for example, that 200 to 300 out of 15,000 multi-tenant units in a typical Tier-One MSA generate 80 percent of the data revenues.[62] And just four MSAs – New York, San Francisco, Washington,

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[57] *See, e.g.*, M. Kastan, *et al.*, Credit Suisse First Boston, *Telecom Services: CLECs – Third Quarter Vital Signs Review*, at Exh. 16 (Dec. 2001) (total buildings data for 8 of the 14 profiled CLECs were not available); J. Atkin & D. Coleman, Dain Rauscher Wessels, *City Light: An Investor's Guide to Metropolitan Optical Services* at 11 (Mar. 22, 2001) ("Few carriers release detailed data on their fiber networks.").

[58] By comparison, there are at least 110 CLECs as well as numerous wholesale fiber suppliers that currently operate metropolitan networks. *See CLEC Report 2002, 15th ed.*, Ch. 6; Section __.

[59] *CLEC Report 2002, 15th ed.*, Ch. 4 at Table 19. This is a highly conservative estimate. It excludes not only the buildings served by literally dozens of CLECs, but also does not include the 27,000 additional buildings NPRG reports for competitive Independent Operating Companies, utility CLECs, data providers, Gig-E providers, fiber layers, and other providers. *See id*. Moreover, the total buildings have been adjusted downward to address the concerns that CLECs raised in the Special Access proceeding in April 2001 (CC Docket No. 96-98).

[60] *See, e.g.*, WorldCom, *Hi-Cap Competition* at 4. In the Triennial Review proceeding, only a few CLECs have provided information regarding the number of buildings they serve with fiber; the totals they have provided, however, are consistent with those used here and in the *UNE Fact Report*. *See UNE Rebuttal Report 2002* at 44 & n.238, *attached to* Ex Parte Letter from Dee May, Verizon, to Marlene Dortch, FCC, CC Docket No. 01-338 (Oct. 23, 2002) ("*UNE Rebuttal Report 2002*").

[61] *See Transcript of Dorman Oct. 2002 Goldman Sachs Presentation*.

[62] Lehman Brothers and McKinsey & Co., *The Future of Metropolitan Area Networks* at 8 (Aug. 24, 2001). A Tier-One MSA is typically defined as an MSA with a population of one million or more.

D.C., and Los Angeles – generate some 40 percent of all data revenues nationwide.[63] As noted above, AT&T's special access customers are concentrated in just 186,000 buildings, which represent just one-quarter of the total number of commercial-office buildings nationwide.

Data on where CLECs have obtained fiber-based collocation provide further proof that CLECs are using their facilities to provide special access service in most of the markets where special access demand is concentrated. CLECs that provide competitive access often do so by collocating their own transmission equipment in an ILEC central office and connecting that equipment to their own fiber-optic network. As the Commission has found, "fiber-based collocation" accordingly supplies the simplest and most unambiguous indicator of the extent of competition in the special access market, albeit a very conservative one that sharply underestimates the full extent of competition.

As both the Commission and the D.C. Circuit found, fiber-based collocation "'is a reliable indication of sunk investment by competitors.'"[64] As a result, "collocation can reasonably serve as a measure of competition in a given market and predictor of competitive constraints upon future LEC behavior."[65] The existence of fiber-based collocation within an MSA demonstrates "that IXCs have a competitive alternative for dedicated transport services needed to reach the majority, although not necessarily all, of their long distance customers throughout the MSA, and that almost all special access customers have a competitive alternative."[66]

As of year-end 2001, one or more CLECs had obtained fiber-based collocation in wire centers that contain 55 percent of Verizon's business lines. As of that same date, one or more CLECs had obtained fiber-based collocation in two-thirds of Verizon wire centers with more than 10,000 business lines.

Of course, these figures are only a highly conservative measure of the extent to which CLECs are using their own facilities to provide special access service because, with all the competitive fiber that has been deployed, a considerable amount of traffic also now bypasses ILEC wire centers completely.[67] As the Commission and the D.C. Circuit have recognized, measuring special access competition by the existence of fiber-based collocation is highly conservative because "'it fails to account for the presence of competitors that . . . have wholly bypassed incumbent LEC facilities.'"[68] And with the rapid rise of data traffic in recent years, special access bypass has increased even beyond what the Commission initially contemplated. ILECs are no longer the sole, and in many cases are not even the primary, points of traffic aggregation. The majority of all traffic today is data traffic, and many – if not most – of the main

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[63] *Id.*

[64] *WorldCom v. FCC*, 238 F.3d. 449, 459 (D.C. Cir. 2001) (quoting *Pricing Flexibility Order* ¶ 81).

[65] *Id.*

[66] *Pricing Flexibility Order* ¶ 142.

[67] These data also are conservative because they examine only fiber-based collocation, even though competitive carriers have obtained many collocation arrangements that, although not fiber based today, could easily be modified to connect to third-party fiber.

[68] *WorldCom v. FCC*, 238 F.3d. at 462 (quoting *Pricing Flexibility Order* ¶ 95).

points of aggregating data traffic are located outside of the ILEC network – at NAPs, IXC POPs, data centers, and collocation hotels.[69]

Wholesale Fiber Suppliers. At the same time that CLECs have been expanding their local fiber networks, there has been a rapid increase in local fiber supplied by "carrier-agnostic" wholesale suppliers.[70] These companies typically sell or lease dark fiber to other carriers, but do not themselves engage in the provision of telecommunications services. They have invested well over $1 billion in deploying local fiber networks that they sell or lease to other carriers. As a result, for a growing number of CLECs, the fiber provided by these wholesale suppliers satisfies a large part of their demand for interoffice transport.

Five of these alternative fiber suppliers have formed an industry coalition – the Coalition of Competitive Fiber Providers – which states that its members' business plans involve the "provision of fiber-based transport services and dark fiber to CLEC[s] . . . collocated in ILEC central offices."[71] The Coalition claims that its "members together represent a total capital investment of approximately $1 billion."[72] According to analysts, metropolitan fiber suppliers have raised about $2 billion in capital since the third quarter of 2000.[73]

Just like CLECs, alternative wholesale suppliers of fiber connect end users to their fiber rings, which in turn connect to interexchange carrier POPs and ILEC central offices.[74] Because these alternative suppliers are "carrier agnostic," they can use their networks to serve multiple carriers at once, significantly improving the economics of deploying fiber.[75] For a growing

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[69] *See UNE Fact Report 2002* at III-4.

[70] *See, e.g.*, J. Grubman, Salomon Smith Barney, *Grubman's State of the Union* at 15 (Mar. 21, 2001) ("there is an avalanche of metro capacity being deployed."); *Robertson Stephens Provides Outlook on Telecom Services*, PR Newswire (Sept. 7, 2000) ("We believe that we have reached the beginning of the end of the metropolitan bandwidth bottleneck . . . We are seeing a new generation of metropolitan bandwidth operators that will provide 100 Mbps plus connectivity at low cost to end users.").

[71] Coalition of Competitive Fiber Providers, Petition for Declaratory Ruling at 2, *Application of Sections 251(b)(4) and 224(f)(1) of the Communications Act of 1934, as amended, to Central Office Facilities of Incumbent Local Exchange Carriers*, CC Docket No. 01-77 (FCC filed Mar. 15, 2001) ("*Coalition of Competitive Fiber Providers Petition*"). The five coalition members are American Fiber Systems, Fiber Technologies, Global Metro Networks, Telergy, and Telseon.

[72] *Coalition of Competitive Fiber Providers Petition* at 2.

[73] P. Brown, *Metro Money; Despite Tighter Purse Strings, Cash Is Still Streaming to Metro Providers*, Tele.com (Aug. 13, 2001) (citing the Yankee Group and quoting Lehman Brothers Equity Research telecom analyst Blake Bath).

[74] *See, e.g.*, *Coalition of Competitive Fiber Providers Petition* at 1 (emphasis added) (Our members "provide, or will provide, advanced fiber-based transport services, *including interoffice transport*, and/or dark fiber to end users and other telecommunications carriers. Coalition members together offer these services and products in virtually every region of the 'lower 48' states and the District of Columbia."); Looking Glass Networks, *FAQ*, http://www.lglass.net/aboutus/faq.jsp (Looking Glass's target customers include "Long Haul Carriers (IXCs), Incumbent Local Exchange Carriers (ILECs), Competitive Local Exchange Carriers (CLECs), Internet Service Providers (ISPs), data centers, bandwidth trading organizations, storage facility providers, wireless data providers and large enterprise customers.").

[75] *See, e.g.*, Wall Street Transcript Corp., *CEO Interview, John Peters – Sigma Networks, Inc.* (John Peters, CEO, Sigma Networks: "[E]ach of these metro networks requires a very large amount of traffic to drive the unit cost

number of CLECs, the fiber provided by these wholesale suppliers satisfies a large part of their demand for last-mile local connectivity and interoffice transport.[76]

While some of the wholesale suppliers of local fiber have experienced financial difficulties, that is due at least in part to the difficulty of competing against below-cost UNEs, which devalue these suppliers' significant investments. In any event, those wholesalers that have sought bankruptcy protection are still operating their networks, and some are now emerging from bankruptcy. *See* Table 6. Others have weathered the recent slowdown and continue to add customers and new networks. *See id.* MFN has stated that it "will continue to operate without interruption," during its Chapter 11 proceedings, and will ensure that its "top-notch service levels will not be compromised by the reorganization process."[77] It "has picked up orders from customers even since filing for bankruptcy protection," and the company's networks in cities along the Northeast corridor – as well as "in Dallas and Houston, where oil and gas companies have been reliable customers, and in technology-rich Western cities such as San Jose, Calif., San Francisco and Seattle" – are already profitable.[78] Williams has emerged from bankruptcy protection "a financially stronger company, well-positioned to provide reliable, superior service over the long-term."[79]

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down to a reasonable level. So by having us deploy a common network infrastructure that can be used by many carriers, we can get the traffic volumes aggregated on our network much more easily than any individual carrier can do on their own and therefore we can drive unit cost down faster."); *id.* (John Peters, CEO, Sigma Networks: "We take a position of neutrality with regard to our customers. . . . We're a neutral provider of broadband interconnections."); Looking Glass Networks, *Collocation*, http://www.lglass.net/products/collocation.jsp (Looking Glass Networks provides "carrier-neutral facilities").

[76] *See, e.g.*, Allegiance Telecom Inc., Form 10-K405 (SEC filed Mar. 30, 2001) (Allegiance has leased fiber from suppliers in 25 markets, and claims that "[t]hese fiber rings are expected to provide [Allegiance] with a reliable, diverse and robust connection to most of [its] central office locations throughout a market."); CTC Communications Press Release, *CTC Communications Announces Fully Funded Local Fiber Build-Out Plan; High Bandwidth Core Fiber Network to Be Extended to Verizon Local Switching Offices*, Bus. Wire (Dec. 19, 2000) (CTC purchased from a "number of dark fiber suppliers" "local fiber in selected geographical areas of eastern Massachusetts, southern New Hampshire, southern Maine and Rhode Island," which it claims will "extend CTC's existing high bandwidth fiber network backbone to Verizon local switching offices," and enable it to "eliminate the need for leased inter-office Verizon facilities."); Sprint Press Release, *Sprint Signs Multiyear Contract with Metromedia Fiber Network for Enhanced Access to Major U.S. Markets* (Dec. 4, 2001) (Sprint expects to begin using MFN networks in initial markets in the second quarter of 2002 and in all 10 cities by the end of 2002); M. Martin, *Looking Glass Focuses on MAN Services*, Network World (Jan. 21, 2002) ("Focal Communications, a national service provide catering to large companies, has used private line services from Looking Glass in several markets for about six months.").

[77] Metromedia Fiber Network Press Release, *Metromedia Fiber Network, Inc. To Reorganize Through a Voluntary Chapter 11 Filing* (May 20, 2002) (quoting John Gerdelman, president and chief executive officer of MFN); *see also id.* (MFN has "reached an agreement with its senior secured lenders which will enable the Company to fund its operations while it implements its plan to become cash flow positive.").

[78] A. Drury, *Metromedia Fiber Network Rose Fast, Fell Hard*, Journal News (Aug. 22, 2002) (quoting Metromedia senior vice president of network operations Bill LaPerch).

[79] Williams Communications Press Release, *Court Confirms Williams Communications Group's Plan of Reorganization* (Oct. 1, 2002); Williams Communications Press Release, *Williams Communications Completes Restructuring, Exits Chapter 11* (Oct. 16, 2002).

Table 6. Wholesale Local Fiber Suppliers			
	Cities with Operational and Planned Networks	**Network Details**	**Recent Status**
American Fiber Systems	Kansas City, Nashville, Cleveland, Minneapolis/St. Paul, Salt Lake City, St. Louis, Hartford. AFS is developing dark fiber optic rings in at least 124 other cities across the country	AFS plans to install "more than 1.4 million miles of fiber-optic strands in second and third-tier U.S. cities over the next seven years."	CEO Dave Rusin (May 2002): "We're seeing large enterprises wanting 24, 48 strands of fiber. This is the tip of the iceberg."
Fibertech Networks	Indianapolis, Syracuse, Albany, Binghamton, Buffalo and Rochester, Pittsburgh, Hartford, New Haven, Columbus, Providence, Worcester, Springfield. Future networks planned in at least 47 markets.	Fiber Technologies "planned network infrastructure and diverse ring topology will encompass more than 40 cities, 6,400 route miles and in excess of 306,000 fiber miles."	President and CEO John Purcell (Mar. 2002): "We closed last year cash positive from operations, are debt-free . . . These are major accomplishments for a start-up company in this economy."
Yipes	San Francisco, San Diego, Seattle, Chicago, New York, Philadelphia, Denver, Dallas, Houston, and Washington, D.C.	"Yipes brings 'optical IP dial tone' to customers through a direct fiber link between their premises and Yipes' regional fiber rings."	July 2002: Yipes "raised a $40.8 million round of equity financing which was led by NVP, with a second tranche of $13.2 million expected to close later this year."
OnFiber	Atlanta, Chicago, Dallas, Denver, Houston, Los Angeles, Miami, New York, Philadelphia, San Francisco, Seattle, Washington, D.C.	"OnFiber's redundant, physically diverse network provides the foundation for the broadest suite of connectivity solutions available including Optical Wavelength, SONET, and Ethernet."	Aug. 2002: OnFiber "has acquired a majority of the network assets and customer contracts of Telseon, Inc. . . increas[ing] the total value of OnFiber's customer contracts by 40 percent, to $39 million." July 2002: "monthly recurring revenue has increased almost 400 percent since December 2001."
Looking Glass	Atlanta, Boston, Chicago, Dallas, Houston, Los Angeles, New York, Northern New Jersey, San Francisco, San Jose, Seattle, Washington, D.C., Northern Virginia	With "over $60 million dollars in customer contracts . . . Looking Glass has been catering to the needs of its sixty-plus carrier and enterprise customers by providing a full range of SONET, Ethernet and Wavelength lit services, along with dark fiber and carrier-neutral collocation services"	Sunit Patel, CFO (Aug. 2002): "Our financial success over the past year has been particularly significant given the volatile climate of the telecom market. . . . In less than 12 months, our Dallas networks turned EBITDA positive."

Table 6. Wholesale Local Fiber Suppliers			
	Cities with Operational and Planned Networks	**Network Details**	**Recent Status**
Metromedia Fiber Networks (MFN)	Seattle, Portland, San Francisco Bay Area, Los Angeles, Phoenix, Denver, Dallas, Houston, Kansas City, Chicago, Miami, Boston, New York, Washington, D.C., Atlanta	"We have already installed over 1.7 million miles of fiber, and are continuing to execute upon our business plan."	May 2002: "Will continue to operate without interruption," during Chapter 11 proceedings; MFN "has picked up orders from customers even since filing for bankruptcy protection," and the company's networks in cities along the Northeast corridor "as well as in Dallas and Houston, where oil and gas companies have been reliable customers, and in technology-rich Western cities such as San Jose, Calif., San Francisco and Seattle" – are already profitable.
Northeast Optic Network (NEON)	Boston, Hartford, Manchester, Nashua, New York, Newark, Portland, Portsmouth, Providence, Springfield, Stamford, White Plains, Worcester, Washington, D.C.	NEON operates "a 2,500 [route] mile inter-city, regional, and metro high-capacity optical network" with over 100,000 fiber miles, 100 POPs	NEON's operations "continue uninterrupted," during its bankruptcy, and "revenue is growing enough to run the company."
Progress Telecom	Atlanta, Miami, New York, Raleigh, Saint Petersburg, South Florida, Tampa, Washington D.C.	"Progress Telecom's network is comprised of 137,000 fiber miles including 8,400 route miles built with SONET self-healing architecture and over 165 POPs."	Sept. 2002: "Progress Telecom claims its 2001 revenues were up about 40 percent and are continuing to show a steady, albeit slower, growth . . . According to Ron Mudry, Progress Telecom's president and CEO, about 60 percent of the revenues come from metro services, 30 from a combination of metro and long-haul transport, and 10 percent from purely long-haul services."
NEESCom	Providence, Worcester, Metro West (MA region east of Worcester)	NEESCom has deployed "more than 700 route miles of dark fiber."	May 2002: "NEESCom continues to produce positive operating profits before goodwill amortisation."
Sources: See Appendix A.			

Other Fiber Networks. In addition to this new breed of wholesale fiber suppliers, many of the nation's utility companies are now supplying local fiber to CLECs. *See* Table 7. Utility companies control a significant portion of the nation's fiber infrastructure – as much as 35 percent according to one source.[80] These companies have the advantage of being able to deploy fiber using their existing infrastructure. As one analyst notes, "[i]f a company already has wires or pipes in the ground, the cost of entry is comparatively low."[81] Another analyst notes that

[80] *See* J. Krause, *They've Got the Power*, The Industry Standard (Dec. 27, 1999).

[81] I. McDonald, *Butterfly Companies: The Web Has Transformed These Utilities Firms*, The Street.com (Nov. 3, 2000), http://www.thestreet.com/funds/fundjunkie/1155477.html.

"roughly half of the new metro networks being built in the United States are being constructed by utilities."[82]

Several of the nation's largest operators of long-haul fiber networks also have constructed metropolitan fiber networks in numerous cities. *See* Table 8. These carriers have sold dark fiber on their long-haul networks to CLECs for many years, and have now begun leasing dark fiber on their metropolitan fiber networks as well. These carriers also have begun providing competitive local services to customers directly.[83]

[82] K. Maddox, *New Era, New Partner – Old-Line Manufacturer Chooses Cinergy for Network Build*, tele.com (Mar. 5, 2001) (citing Forrester analyst Maribel Dolinov).

[83] Level 3 Press Release, *Level 3 Sells Metropolitan Dark Fiber to District of Columbia* (Jan. 31, 2002) (the District of Columbia City government agreed to lease dark fiber from Level 3 to create a high-speed data network linking government buildings at various locations across the city).

Table 7. Utilities Providing Local Fiber	
ConEdison Communications of New York	"ConEdison has embarked on a push to become a fiber-based carrier's carrier in the New York metro area, and is deploying all new fiber in ConEd's conduits. . . . 'If you're a retail provider and you touch our network at any POP, you could buy whatever unit of bandwidth you want into any building we have on the network,' [Peter Rust, president and CEO of ConEdison Communications] explained. 'You could go after that building, sell one or two customers, buy just what you need to cover those two customers and grow the bandwidth as you need it.'"
Progress Telecom	Progress Telecom is "building local metropolitan fiber networks to try to get the capacity out close to the buildings and the consumers where they need it."
Telergy MidAtlantic	"Business customers in Northern New Jersey and Pennsylvania now have access to a powerful new source for telecommunications services. TMA combines the resources of Telergy's established telecom network with GPU's extensive last mile reach and communications construction experience."
PPL Telecom	PPL Telecom will market its services in five metropolitan areas that company officials believe are underserved – the Lehigh Valley, Lancaster, Harrisburg, Scranton/Wilkes-Barre and Williamsport. "Our fiber, as it exists today, is within half a mile of 20,000 office buildings."
Bristol Virginia Utilities Board	"Six businesses now have high-speed Internet connections through the city's fiber-optic network, and two dozen others have requested the service. . . . Several telecommunications companies are interested in leasing the capacity to provide . . . telephone service."
Alameda Power & Telecom	Alameda Power & Telecom "finalized a $16 million contract with Evansville, Ind.-based Vectren Communications Services for construction of a hybrid fiber optic/coaxial telecommunications network.," which "will allow the municipal utility to offer telecommunication services to its customers."
Cinergy Communications	Cinergy Communications (a telecom subsidiary of Cincinnati's gas and electric provider, Cinergy Corp.) has begun leasing its fiber network that circles Cincinnati.
Edison Carrier Solutions	"San Diego's Edison Carrier Solutions has built a Southern Cal. network 2nd only to the incumbent phone provider and concentrates on SONET transport, also offering managed wavelength service and dark fiber leasing."
Electric Power Board of Chattanooga	"EPB, the [Chattanooga] city-owned electric utility, expanded two years ago into telecommunications to capitalize on the utility's fiber-optic lines originally installed to help with communications for its electricity service."
El Paso Global Networks	El Paso Global Networks (a subsidiary of natural gas and energy company El Paso Corp.) plans to spend $2 billion over the next four years on a nationwide fiberoptic network and "plans to overbuild its metropolitan areas to provide better connectivity."
FPL FiberNet	FPL FiberNet (a subsidiary of the utility holding group that includes Florida Power & Light) has a 2000 mile fiber network in Florida. It provides connectivity to major telecom centers in Florida, "including leading carrier hotels, NAP initiatives, international cable-heads and large central offices."
Grant County Public Utility District	"GCPUD will provide video services over its existing fiber-optic infrastructure, known as Zipp. When completed in 2005, the Zipp network will contain some 50,000 mi of fiber in its effort to reach 40,000 homes, businesses, and farms throughout Grant County. To date, the network passes about 7,000 homes with approximately 2,000 customers 'lit' and receiving services."
Lafayette Utilities System	"The Lafayette Utilities System has completed a 65-mile, 96-strand fiber-optic loop that offers broadband throughout the city. The loop passes within 1 mile of nearly every home in the city limits."
Reliant Energy	Operates a 67-route mile fiber backbone in Houston.
Sempra Communications of Los Angeles	"L.A. utility firm Sempra Communications found a technique for running fiber conduit through pipelines without interrupting gas transmission and is attacking the last mile as 'the gold mine of the [telecom] industry.'"
Touch America (formerly Montana Power)	Owns and operates a 23,000-route-mile, state-of-the-art, high-speed fiber-optic network that will span 26,000-route miles, cross 40 states, and reach more than 140 major cities in 2002. Its network is used for long-haul services and "for Touch America's own direct connections to individuals and businesses through its wireless services, metropolitan fiber offerings, and private line, long-distance and Internet applications."
Sources: See Appendix A.	

Table 8. Local Fiber Networks of IXCs That Supply Dark Fiber	
Company	**Cities with Operational Networks**
Williams	Anaheim, Atlanta, Baltimore, Boston, Chicago, Dallas, Houston, Los Angeles, Miami, Minneapolis, New York, Newark, Philadelphia, Phoenix, San Francisco, San Jose, Santa Clara, Seattle, St. Louis, Washington, D.C.
Level 3	Atlanta, Baltimore, Boston, Chicago, Cincinnati, Dallas, Denver, Detroit, Jersey City, Houston, Long Island, Los Angeles, Miami, New York, Newark, Orlando, Philadelphia, Phoenix, San Diego, San Francisco, San Jose, Seattle, St. Louis, Stamford, Tampa, Washington, D.C.
Global Crossing	New York, Philadelphia, Washington, D.C., Atlanta, Miami, Dallas, Chicago, San Francisco, San Jose, Los Angeles
Qwest	Baltimore, Chicago, Dallas/Ft. Worth, Houston, Kansas City, Los Angeles, New York, Sacramento, San Francisco, San Jose, St. Louis, Washington, D.C.
Sources: See Appendix A.	

C. Use of ILEC Special Access Services

In addition to using their own facilities to provide special access services, CLECs and IXCs are purchasing a large number of special access circuits from ILECs that they are reselling to end-user customers together with their own facilities or services. Competing carriers are using ILEC special access circuits in order to provide connections to their interstate networks, as well as to their switched local networks. Competing carriers are purchasing far more high-capacity circuits as special access service than as unbundled network elements. And, as demonstrated below, they have been able to compete successfully on that basis.

In Verizon's region, competing carriers rely overwhelmingly on special access service, not UNEs, for their high-capacity circuits. In the first eight months of 2002, for example, competing carriers as a whole had obtained more than twice as many high-capacity circuits (DS1s and above) as special access than as unbundled network elements. *See* Table 9. Approximately 95 percent of the high-capacity circuits that competing carriers have obtained from Verizon are DS-1 circuits, while the remainder are DS-3 or higher capacity. *See id.* As competitors have acknowledged, they are relying primarily on special access instead of UNEs in other parts of the country too.[84]

[84] In the Triennial Review proceeding, the Bell companies submitted data demonstrating that, while CLECs are providing business customers with between 17 and 25 million *switched* access lines plus tens of millions of special access lines, they have obtained only about 100,000 unbundled high-capacity loops in the four Bell companies' regions combined. *UNE Fact Report 2002* at IV-6; *UNE Rebuttal Report 2002* at 2. The CLECs explained that they were satisfying virtually all of their demand for high-capacity circuits used for switched local service with either their own facilities or with ILEC special access service. *See, e.g.*, Reply Declaration of C. Michael Pfau on Behalf of AT&T Corp. ¶ 26, *attached to* Reply Comments of AT&T Corp., CC Docket No. 01-338 (FCC filed July 17, 2002) ("At least in AT&T's case, the capacity of loops purchased as special access dwarfs the capacity of loops purchased as UNE-L."); Reply Comments of WorldCom, Inc. at 67, CC Docket No. 01-338 (FCC filed July 17, 2002) ("In reality, a high proportion of the competitive LEC customers not served over UNE loops are served over special access circuits purchased from the incumbents.").

Table 9. CLEC High-Capacity Circuits in Verizon's Region (as of August 2002)		
	DS-1	**DS-3 or higher**
Special Access	46,000	2,000
UNE/EEL	24,000	<100

Many competing carriers that obtain high-capacity circuits from ILEC do so entirely by purchasing special access service rather than high-capacity loops. In Verizon's region, for example, there are several competing carriers that purchase all of their high capacity circuits exclusively as special access, and many others that rely on special access primarily (though not exclusively) to satisfy their demand for high-capacity circuits. Based on a sample of nine of the largest purchasers of special access, three purchase all of their high-capacity circuits as special access, two additional competing carriers purchase 80 percent or more of all of their high-capacity circuits as special access, and a total of eight competing carriers purchase all of their DS-3 or higher circuits as special access.

Competing carriers that rely exclusively or predominantly on special access service from ILECs to satisfy their demand for high-capacity circuits have clearly been able to compete successfully using that approach. As discussed below, competing carriers have won tens of millions of voice-grade equivalent special access lines using a combination of their own facilities and special access circuits purchased from ILECs. *See* Section I.D., *infra.* They have captured a third or more of all special access revenues. *See* Section I.E, *infra.* And they are competing successfully in providing various services that use special access as an input, such as enterprise long distance services, high-speed data services such as ATM and Frame Relay, and local services provided to large business customers. *See* Section II, *infra.*

Many of the largest individual purchasers of special access service from ILECs likewise have achieved considerable success in the special access market itself, as well as in the markets in which special access is used as an input. AT&T has reported that it satisfies virtually all of its demand for ILEC high-capacity circuits using special access instead of UNEs.[85] Doing so, in combination with the use of its own facilities, AT&T has become one of the largest special access providers in the country – with nearly *$3 billion* in annual special access revenues[86] and at least 27 million special access lines – and has told investors that it is having great success in this market.[87] AT&T also is a major – and, in many cases the largest – provider in many of the markets in which ILEC special access is typically used as an input, including enterprise long

[85] It claims, for example, that it has obtained special access in approximately 11,500 ILEC central offices, and that "over 98%" of its "facilities-based *local* service for business customers using incumbent facilities of DS-1 level or higher is provided over incumbent special access services, not UNEs." *AT&T's Fea/Giovannucci Triennial Review Decl.* ¶ 26; *AT&T Petition* at 17.

[86] *See CLEC Report 2002, 16th ed.*, Ch. 6 – AT&T Corp. at 1, 10.

[87] *See* Reply Comments of AT&T Corp. at 183, n.135, CC Docket No. 01-338 (FCC filed July 17, 2002) ("*AT&T Triennial Review Reply Comments*"); *Transcript of Dorman Oct. 2002 Goldman Sachs Presentation* (then AT&T president David Dorman: "[O]ver 20 percent [] of our T1-equivalent services are on net and we're growing that every day . . . this is a marketplace where we are clearly competing principally with the RBOCs and perhaps whatever comes out of the WorldCom process that is underway.").

distance and ATM and Frame Relay services.[88] AT&T also is thriving in the market for providing local services to large business customers, where it serves more than 3 million lines and reports that its revenues and customer base are rapidly expanding.[89]

WorldCom also satisfies virtually all of its demand for ILEC high-capacity circuits using special access instead of UNEs.[90] Like AT&T, it is now a major provider of special access service – with more than $2 billion in annual revenues[91] and tens of million of special access lines – and has achieved great success using special access to compete in the markets for enterprise long distance services and ATM and Frame Relay services.

D. Competitive Special Access Lines and Revenues.

As discussed above, the Commission recognized in the *Pricing Flexibility Order* that competition for special access services is properly measured by the availability of competitive alternatives, rather than by the number of customers that have actually chosen those alternatives.[92] Courts have likewise held that "a company's ability to exercise market power depends not only on its share of the market, but also on the elasticities of supply and demand, which in turn are determined by the *availability* of competition."[93] AT&T has similarly claimed that competition should be measured by the "availability of competitive alternatives."[94] While this establishes that it is not appropriate to measure special access competition based solely on market-share tests, the fact that competitors have managed to capture substantial numbers of special access lines and large amounts of special access revenues nonetheless provides additional confirmation that competitive alternatives for special access are widespread.

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[88] *See, e.g.*, R. Kaplan, IDC, *U.S. Frame Relay Services Forecast and Analysis, 2001-2006* at Figure 4 (Apr. 2002) (AT&T is one of the top two providers of frame relay, with 33 percent of total frame-relay revenue in 2001) ("*IDC April 2002 Frame Relay Report*"); R. Kaplan, IDC, *U.S. ATM Services Forecast and Analysis, 2001-2006* at Figure 4 (June 2002) (AT&T is one of the top two providers of ATM, with 19 percent of total ATM revenue in 2001) ("*IDC June 2002 ATM Services Report*"); AT&T Corp., Form 10-K (SEC filed Apr. 1, 2002) ("AT&T Business Services is one of the nation's largest business services communications providers").

[89] AT&T, *Earnings Commentary: Quarterly Update – Third Quarter 2002* at 4 (Oct. 22, 2002) (AT&T Business reported that "[l]ocal voice revenue, including reciprocal compensation, grew 5.0% over the prior year. . . . Access lines grew approximately 26% over the prior year with 170 thousand lines being added during the quarter. Local access lines totaled more than 3.4 million at the end of the third quarter.").

[90] *See* Ex Parte Letter from Henry Hultquist, WorldCom, to Marlene Dortch, Secretary, FCC, CC Docket Nos. 01-338, 96-98, and 98-147, at 2 (Oct. 29, 2002) (WorldCom "provisions approximately 90% of its last-mile DS1s over ILEC special access facilities.").

[91] *CLEC Report 2002, 16th ed.*, Ch. 6 – WorldCom at 1, 6.

[92] *See Pricing Flexibility Order* ¶ 91 (declining to adopt market-share requirement for measuring special access competition); *id.* ¶ 103 ("we adopt collocation rather than market share as a measure of competitive presence").

[93] *Time Warner Entertainment v. FCC*, 240 F.3d 1126, 1134 (D.C. Cir. 2001) (citing *AT&T Corp. v. FCC*, 236 F.3d 729, 736 (D.C. Cir. 2001)).

[94] *See, e.g.*, Comments of AT&T Corp. at 2, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 02-145 (FCC filed July 29, 2002) (stating that the focus in analyzing competition should be on the "availability of competitive alternatives").

Special Access Lines. Fifteen competing carriers have reported to investors that they serve a total of more than *170 million* voice-grade equivalent lines. *See* Table 10. The vast majority of these lines – roughly 140 million or so – appear to be special access and private lines, while the rest are switched access lines.[95] AT&T, for example, reports that it served 30 million voice-grade equivalent business lines as of year-end 2001 – some 2.7 million switched access lines, plus 27.3 million voice-grade equivalents that "consist mostly of additional services, principally private line data services that are typically OC-3, OC-12, or OC-48 circuits."[96]

To put these totals in perspective, the BOCs collectively serve only about 80 million voice-grade equivalent special access lines, including those resold to competing carriers.[97] Assuming that the BOCs provided approximately 44 percent (35 million) of their voice-grade equivalent special access lines directly to end users – which is the same percentage of special access revenues they generate from end-users[98] – means that they are providing the other 45 million voice-grade equivalent special access lines to competing carriers. Subtracting that figure from the 140 million voice-grade equivalent special access lines that competitors are providing yields approximately 95 million voice-grade equivalent special access lines that competitors are serving entirely over their own facilities or those of competitive suppliers.[99]

Despite telling investors that it serves 27 million voice-grade equivalent special access lines of its own, AT&T has recently stated to the Commission that, for competing carriers as a whole, "public and verified data show only about 6M VGEs (not physical loops) are self-deployed OR provided by purchasing special access" from ILECs.[100] AT&T is obviously confused. The six- million figure that AT&T cites is the number of *switched* access lines that the FCC categorizes as "CLEC-owned" based on data that CLECs report to the FCC in their Form 477 reports. It does not include any special access lines – either those provided entirely over CLEC facilities, or those provided using resold ILEC special access circuits.

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[95] As of June 2002, CLECs served approximately 17-24 million switched access lines using their own local switches, plus approximately 10 million lines through resale or UNE-P – for a total of roughly 30 million switched access lines. *See UNE Rebuttal Report* at 2; *UNE Fact Report* at I-5. Subtracting that 30 million from the 170 million voice-grade equivalent lines that CLECs report yields 140 million special access lines.

[96] *AT&T Triennial Review Reply Comments* at 183 n.135.

[97] FCC, *Statistics of Communications Common Carriers 2001/2002 ed.*, at Table 2.6 (Sept. 2002). Although the BOCs report serving fewer voice-grade equivalent special access line than what the CLECs report, this is likely due to the fact that CLECs have captured many individual customers with very intense demand for high-capacity lines. This reflects the fact that the demand for special access is highly concentrated. Significantly, CLECs have acknowledged that they typically serve their largest customers entirely with their own facilities. *See, e.g.*, *AT&T's Fea/Giovannucci Triennial Review Decl.* ¶ 58 (acknowledging that AT&T often "self-provides DS-3 transport.").

[98] *See FCC Telecommunications Industry Revenues, 2000 ed.* at 13 (Table 5, Lines 305 & 312) and 17 (Table 6, Lines 406 & 415).

[99] According to data reported by the FCC, BOCs generate $5.9 billion of $13.3 billion dollars in special access and private line revenues from service to end users. *Id.*

[100] AT&T Presentation, *Loop Unbundling and Impairment*, CC Docket No. 01-338, at 19 (Oct. 7, 2002).

Although the FCC requires CLECs to report the number of special access and private lines they serve,[101] the Commission does not include those numbers in its *Local Telephone Competition* report, or otherwise release them to the public. The FCC reports only the total number of "switched access lines" that CLECs provide. As of year-end 2001, CLECs reported that they were serving about 10 million switched access lines – the 6 million "CLEC-owned" switched access lines cited by AT&T, which are defined as lines "provided over CLEC-owned 'last-mile' facilities"; plus 4 million switched access lines that CLECs are providing through "UNEs without switching" – that is, by using unbundled loops from ILECs together with the CLECs' own switch. By definition, the 10 million CLEC switched access lines reported by the FCC excludes CLEC special access lines provided over their own facilities, as well as CLEC special access lines provided through reselling ILEC special access service.[102]

[101] In particular, carriers are required to report "special access lines not provided as broadband and private lines that connect an end-user premises to a telecommunications common carrier and is not provided as broadband." FCC Form 477 – Local Competition and Broadband Reporting at Line C.II-6.

[102] These lines are, however, represented in the counts of facilities-based business lines that the Bell companies have provided to the Commission in the Triennial Review proceeding. *See UNE Fact Report 2002* at IV-6. Those totals are based on the number of E911 listings that CLECs have obtained, as well as on the number of interconnection trunks CLECs have obtained. To the extent that a CLEC is providing switched local services using an ILEC special access circuit it will typically have one or more E911 listings for that circuit, and will have interconnection trunks associated with those lines. *See UNE Rebuttal Report 2002* at 8; *AT&T Triennial Review Reply Comments* at 184 ("when a competitive LEC uses its own switch combined with special access to provide local service, it reports those numbers to the E911 database just as it would if it had deployed its own loops").

Table 10. CLEC Voice-Grade Equivalent Lines Reported to Investors		
	***CLEC-Reported Totals*(3Q 2002 or most recent available)**	
WorldCom	76.4 million (YE 2001)	"as of December 31, 2000, our domestic local voice grade equivalents had increased 98% to 65.5 million versus the prior year amount." "Voice Grade Equivalents 2001: **76,415,566**" – WorldCom, Inc., Form 10-K (SEC filed Mar. 13, 2002)
AT&T	>40 million (2Q 2002)	"UNE-P lines now represent a little over 15 percent of the voice business access lines and roughly 1 percent of the more than **40 million** DS0 equivalents." – *AT&T 2Q Earnings Conference Call* (July 23, 2002)
XO	20.9 million (1Q 2002)	"Voice grade equivalents: **20,932,000**" – XO Communications Inc., Form 10-Q (SEC filed May 14, 2002)
Time Warner Telecom	17.8 million	"DS-0 Equivalents: **17,793,000**" as of 3Q02 – Time Warner Telecom Press Release, *Time Warner Telecom Announces Third Quarter 2002 Results* (Oct. 30, 2002)
Adelphia Bus. Solutions	4.6 million (3Q 2001)	"Voice Grade Equivalent Circuits: **4,624,032**" – Adelphia Business Solutions, Form 10-Q (SEC filed Nov. 13, 2001)
KMC Telecom	4.1 million (YE 2001)	"[W]e currently provide over **4.1 million** DS-0 equivalents in approximately 820 markets nationwide." – KMC Telecom Holdings, Inc., Form 10-K (SEC filed May 17, 2002)
Cox	2.2 million	Cox residential phone customers "have more than **700,000** lines"; Cox Business Services serves "more than **1.5 million** private line VGE's." – Cox, *The Case for Cable Telephony* at 1 (Oct. 2002)
Allegiance	1.4 million	"Lines in Service: **1,389,200**" as of 3Q02 – Allegiance Telecom, Form 10-Q (SEC filed Nov. 14, 2002)
Focal	691,000	"Cumulative Net Lines Installed to Date: **691,204**" as of 3Q02 – Focal Communications, Form 10-Q (SEC filed Nov. 14, 2002)
CTC	615,000 (2Q 2002)	"The Company ended the June 2002 quarter with approximately **615,000** access line equivalents" – CTC Press Release, *CTC Communications Group Reports Revenue and Operating Results for the Quarter Ended June 30, 2002* (July 30, 2002)
Choice One	550,000	"DS-0 Equivalents: **549,639**" as of 3Q02 – *Choice One Communications, Inc. Selected Operating Statistics, attached to* Choice One Press Release, *Choice One Reports Third Quarter 2002 Results* (Nov. 4, 2002)
CoreComm/ ATX	508,200	"Toll-related Access Line Equivalents: **508,200**" as of 3Q02 – ATX Press Release, *ATX Communications, Inc. Announces Financial Results for the Third Quarter of 2002* (Nov. 14, 2002)
PaeTec	344,000	PaeTec "has installed **344,256** access line equivalents . . . as of September 30, 2002." – PaeTec Press Release, *PaeTec Exceeds 344,000 Access Lines* (Oct. 15, 2002)
Pac-West	324,000	"Total DS-0 equivalent lines in service, which include SP and SME DS-0 line equivalents, were **324,100** at the end of the third quarter of 2002." – Pac-West Press Release, *Pac-West Telecom Announces Third Quarter 2002 Results and Cash Tender Offer and Related Consent Solicitation* (Nov. 11, 2002)
Integra	>143,000 (2Q 2002)	Integra "currently serve[s] over **143,000** lines." – Integra Telecom, *Business Profile – July 2002*, http://www.integratelecom.com/pdfs/BusinessProfileJuly2002.pdf
Total	**170.6 million**	

Special Access Revenues. The leading independent study of the CLEC industry – New Paradigm Resources Group's *CLEC Report 2002* – reports that CLECs earned approximately *$10 billion* in special access and private line revenues in 2001.[103] ALTS – a CLEC trade association – relies on that source in formulating its own annual reports of the state of the CLEC industry.[104] By comparison, according to the FCC's most recent *Telecommunications Industry Revenues* report, the Bell companies earned approximately $13 billion in the provision of special access revenues in 2000 – the most recent year for which such data are available.[105] Factoring in a year's worth of growth (at historical growth rates) brings that total up to $18 billion for 2001.[106] Based on these figures, competing carriers have now captured more than one-third of all revenues for special access services.

In the past, AT&T has argued that competing carriers generate less than one-quarter of all special access revenues.[107] To arrive at this result, AT&T has relied on the FCC's *Telecommunications Industry Revenue* report to estimate CLEC special access revenue, instead of on New Paradigm's *CLEC Report*. The problem with using the FCC's revenue data to estimate CLEC special access revenues is that several CLECs – including the two largest, AT&T and WorldCom – report their special access revenues as both CLECs and "toll carriers."[108] For example, when AT&T and WorldCom use their local facilities to supply special access to their long distance network, they typically report that revenue as toll carriers.[109] CLECs that rely on

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[103] *See CLEC Report 2002, 16th ed*., Ch. 3 at Table 13; ALTS, *The State of Local Competition 2002, Annual Report* at 18 (Apr. 2002). In analyzing special access competition, New Paradigm's *CLEC Report 2002* takes the same approach as the FCC's own local competition surveys, and treats special access and local private line service as a single category. *See* Ind. Anal. Div., FCC, *Local Competition: August 1999* at Table 2.4 (Aug. 1999) (computing CAP/CLEC market share of "Local private line and special access service").

[104] *See* ALTS, *The State of Local Competition 2002, Annual Report* at 18 (Apr. 2002). The other major CLEC trade association – CompTel – has recently commissioned New Paradigm to prepare a report on the state of competitive local investment. *See* New Paradigm Resources Group, Inc., *Measuring the Economic Impact of the Telecommunications Act of 1996: Telecommunications Capital Expenditures (1996-2001)* at Table 21, prepared for CompTel (Oct. 2002).

[105] *FCC Telecommunications Industry Revenues, 2000 ed*. at 13 (Table 5, Lines 305 & 312) and 17 (Table 6, Lines 406 & 415). Special access revenues are the sum of two revenue categories: "local private line and special access" and "long distance private line services." The FCC defines "long distance private line services" to "include revenues from dedicated circuits, private switching arrangements, and/or predefined transmission paths, extending beyond the basic service area. *This category should include revenues from the resale of special access services*." FCC, *Telecommunications Reporting Worksheet, FCC Form 499-A, Instructions for Completing the Worksheet for Filing Contributions to Telecommunications Relay Service, Universal Service, Number Administration, and Local Number Portability Support Mechanisms* at 20 (Feb. 2001) (emphasis added). AT&T has acknowledged that special access revenues represent the sum of these two categories. *See AT&T's Pfau 2001 Special Access Decl.* ¶¶ 13-14.

[106] Applying the 1999-2000 growth rate. *See FCC Telecommunications Industry Revenues, 1999 ed*. at 11 (Table 5, Lines 305, 312) and 15 (Table 6, Lines 406, 415); *FCC Telecommunications Industry Revenues, 2000 ed*. at 13 (Table 5, Lines 305 & 312), 17 (Table 6, Lines 406 & 415).

[107] *See, e.g*., AT&T Reply Comments at 17-19, CC Docket No. 96-98 (FCC filed Apr. 30, 2001) (arguing that CLEC's special access market share is closer to 22 percent); *AT&T's Pfau 2001 Special Access Decl.* ¶¶ 5-21.

[108] *See AT&T's Pfau 2001 Special Access Decl.* ¶ 16 ("Arguably, MCI/WorldCom and AT&T fall within the category of 'Toll Carrier' and, as a result, any self-supplied special access may not be included in the CLEC figure.").

[109] *See id*. ¶ 17 ("self-supplied access would not be encompassed in the figures and, hence, the need for an adjustment").

the FCC data ignore that revenue, which is substantial. At the same time, it is difficult to quantify that revenue. Not all of the local and long distance private line revenue that these carriers report as toll carriers is necessarily special access revenue, and there is no precise way to back out the portion that is.[110]

In any event, even using FCC data and methodologies endorsed by CLECs yields a very high CLEC market share. According to the most recent *Telecommunications Industry Revenues* report, CLECs and IXCs earned $4.2 billion in the provision of local private line and special access and long distance private line services in 2000.[111] AT&T also has acknowledged that the access that AT&T and WorldCom supply to themselves was worth approximately $900 million as of 1999.[112] Assuming that the value of these two carriers' self-supplied special access increased in the last two years (2000 and 2001) by the same amount as it did in previous years (1999), the value of this self-supply was approximately $1.3 billion in 2001.[113] That brings total CLEC special access revenues to $5.5 billion under FCC data. This represents a market share of approximately 30 percent.[114]

II. COMPETITION FOR SERVICES THAT USE SPECIAL ACCESS AS AN INPUT

Special access is frequently used as an input to provide various services – including long distance, ATM, Frame Relay, and switched local services – to large business customers. The big three interexchange carriers dominate the provision of long distance, ATM, and Frame Relay services to large businesses, while the Bell companies are only minor players. In the provision of switched local services to business customers, CLECs have already captured between 17 and 24 million switched lines, and these totals are growing rapidly. While competitors have long claimed that ILECs have theoretical incentives to discriminate in the provision of special access, the success of competitors in providing services that rely on special access as an input proves that no such discrimination is actually occurring. CLECs have instead been able to obtain access

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[110] *See AT&T's Pfau 2001 Special Access Decl.* ¶¶ 16-17 (acknowledging that the FCC data is incomplete and estimating the percentage of AT&T's and MCI WorldCom's "toll carrier" revenues which are actually from special access to make an "adjustment" to the special access market share calculation).

[111] *FCC Telecommunications Industry Revenues, 2000 ed.* at 14 (Table 5, Lines 305 & 312), 18 (Table 6, Lines 406 & 415).

[112] *AT&T's Pfau 2001 Special Access Decl.* ¶ 16.

[113] *AT&T's Pfau 2001 Special Access Decl.* ¶ 16 (value of AT&T and WorldCom self-supply increased from $627 million in 1998 to $856 million in 1999).

[114] This figure is undoubtedly too low. It excludes completely any special access revenue that AT&T and other interexchange carriers report as long distance private line revenue and that is earned by reselling the services of other CLECs and ILECs. This amount is substantial, as the interexchange carriers are the largest special access customers of both many CLECs and the ILECs, and purchase such services in order to resell them to end users. AT&T has acknowledged that adding this total to CLEC local access and private line revenue would bring total special access revenues in line with the totals reported by New Paradigm. *See AT&T's Pfau 2001 Special Access Decl.* ¶ 19 n.4. AT&T has nonetheless argued that it is appropriate to exclude such revenues because the ILECs do not typically compete in the provision of long distance private line service. But the extent to which ILECs provide long distance private service obviously is irrelevant; the only relevant question is the extent to which competing carriers provide private line and special access services that compete with the private line and special access service that ILECs provide.

to special access facilities at prices that enable them to compete – either by deploying such facilities themselves, leasing them from other competitive suppliers, or by reselling special access service obtained from ILECs.

Enterprise Long Distance Services. Special access is used in large part to provide large business customers dedicated connections to long distance networks.[115] It is frequently sold as a bundle together with the long-distance transport itself. As noted above, approximately half of Verizon's special access revenues are generated by the three big IXCs, while another 10 percent is generated by other smaller interexchange carriers.

Today, AT&T, WorldCom, and Sprint dominate the provision of long distance service to large business customers. As a group of large customers recently informed the WorldCom bankruptcy court, these three carriers "account for over 90% of enterprise telecommunications usage and are widely viewed as the only interexchange carriers capable of providing the full suite of network services required by major corporations."[116] The Department of Justice has likewise found that "[n]early all large businesses look to AT&T, WorldCom, and Sprint for competitive [Custom Network Service] bids, and a significant number are unwilling to give serious consideration to any carrier other than the Big 3."[117] The Bell companies have only recently begun providing long distance service to business customers in some states. Analysts recognize that the Bell companies face enormous challenges in competing against the entrenched incumbents in these markets.[118] AT&T has recently stated that Verizon has "a long way to go" before it will be able to build a long-distance network that competes effectively against AT&T's.[119]

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[115] The Commission has recognized that there is a distinct market for long distance services provided to larger business customers. *Application of WorldCom, Inc. and MCI Communications Corp. for Transfer of Control of MCI Communications Corp. to WorldCom*, Memorandum Opinion and Order, 13 FCC Rcd 18025, ¶ 26 (1998) ("*WorldCom/MCI Order*"). The Commission deregulated long distance services provided to large business customers several years before it deregulated mass-market long distance services. *See Competition in the Interexchange Marketplace*, Report and Order, 6 FCC Rcd 5880 (1991); *Competition in the Interexchange Marketplace*, Second Report and Order, 8 FCC Rcd 3668 (1993).

[116] Motion of the Ad Hoc Committee of WorldCom Enterprise Customer for Entry of an Order Directing the United States Trustee To Appoint an Official Committee of Enterprise Customers Pursuant to 11 U.S.C. § 1102(a)(2), *WorldCom, Inc., et al*., Chapter 11 Case No. 02-13533-AJG, at 6 (filed Oct. 8, 2002).

[117] Complaint ¶ 158, *United States v. WorldCom, Inc. and Sprint Corp*., No. 00-CV-1526 (D.D.C. filed June 27, 2000). The Department of Justice noted that "[l]arge businesses typically purchase a substantial majority of their telecommunications services in a bundle of customer network services ('CNS') that is tailored to meet their particular needs." Although the requirements of these large businesses vary, most large business customers require outbound long distance voice, in-bound/toll-free voice services, data network services, ancillary services such as teleconferencing and broadcast fax, Internet services such as dedicated access, and international voice and data services. *Id*. ¶ 149.

[118] *See, e.g*., *See, e.g*., J. Halpern, *et al*., Bernstein Research Call, *AT&T: Gauging the Benefits to AT&T When the Wheels Fly Off at WorldCom* at 4 (Sept. 17, 2002) ("At present, only AT&T, WorldCom, Sprint and, to a lesser degree, Qwest, have been able to satisfactorily provide a more or less full suite of services to large corporate customers."); R. Krause, *Bells On Brink Of Going Long Distance*, Investor's Business Daily (Aug. 2, 2002).

[119] *See* B. Charny, *Verizon Hungers for Corporate Data*, CNET News.com (Nov. 4, 2002), http://news.com.com/2100-1033-964419.html.

ATM and Frame Relay Services. The Commission has recognized that large business consumers typically use different high-speed technologies than mass-market consumers.[120] The two most common packet-switched services provided to large business customers are ATM and Frame Relay.[121] Special access is used extensively to provide large business customers access to ATM and Frame Relay networks.

The largest providers of both Frame Relay and ATM services are AT&T, WorldCom, and Sprint, which control two-thirds or more of the nationwide market for these services. *See* Figure 2.[122] As one analyst has noted, "[t]he Big 3 IXCs own the U.S. frame relay market, have scale economies and are best positioned to influence users and move the market."[123] AT&T describes itself as "the frame relay market leader"[124] and reports "healthy growth in high-speed private line facilities" and in "frame and ATM ports."[125] By contrast, the Bell companies collectively represent less than 15 percent of nationwide ATM and Frame Relay revenues.[126] And as noted by industry analysts and CLECs alike, Bell companies are currently limited in their ability to compete in the provision of ATM and Frame Relay to large business customers offerings due to restrictions on the provision of interLATA services.[127] Analysts also note that,

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[120] *WorldCom/MCI Order* ¶ 26 ("larger business users often demand advanced long distance features (advanced features), such as frame relay, virtual private networks (VPN), and enhanced 800 services (E800 services), that differ from the services generally demanded by mass market consumers.").

[121] R. Kaplan, IDC, *U.S. Packet/Cell-Based Services Market Forecast and Analysis, 2000-2005* at 1 (Mar. 2001) (ATM and Frame Relay accounted for over 96 percent of revenues in the packet/cell-based services market in 2000).

[122] *See IDC June 2002 ATM Services Report* at Figure 4 (AT&T, WorldCom, and Sprint together accounted for 64.1 percent of revenues for ATM in 2001); *IDC April 2002 Frame Relay Report* at Figure 4 (AT&T, WorldCom, and Sprint together accounted for 77.0 percent of revenues for frame relay in 2001); Stratecast Partners, *ATM and Frame Relay Market Assessment, Data/Internet Services Growth Strategies*, Vol. II, No. 10, at 10 (Sept. 2001) ("Tier 1 service providers continue to dominate the U.S. market, controlling over 70% of the market.") ("*Stratecast ATM/Frame Relay Report*"); *id*. at 17 ("In 2000, AT&T held the largest share of ATM service revenues, with a 36% share of [the] market; WorldCom and Sprint held the second and third leading position in the market with shares of 26% and 22%, respectively. As in the frame relay market, the RBOCs collectively represent a small share of the ATM services market.").

[123] *Stratecast ATM/Frame Relay Report* at 12.

[124] AT&T Corp., *AT&T Frame Relay and ATM Services Brochure*, http://www.business.att.com/content/productbrochures/MS-8151-02.pdf; AT&T News Release, *AT&T Reports Precedent-Setting "Five Nines" Performance On Its Market-Leading Frame Relay Network* (July 24, 2000).

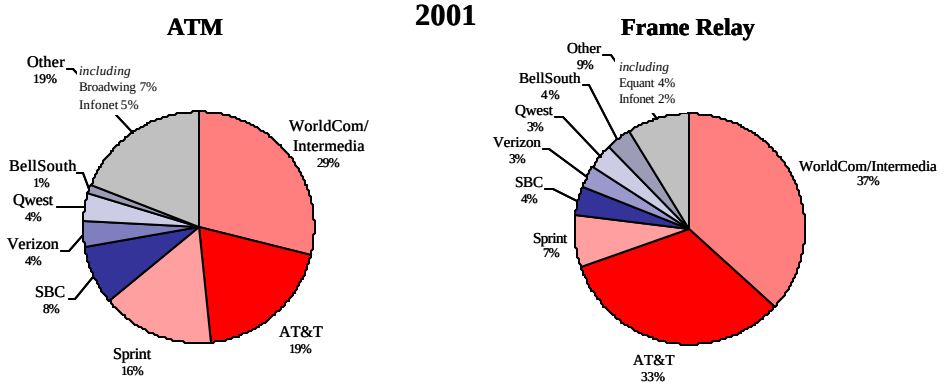
[125] *Q2 2002 AT&T Earnings Conference Call*, Financial Disclosure Wire, Transcript 072302au.729 (July 23, 2002).

[126] *See IDC June 2002 ATM Services Report* at Figures 1 & 4 (Total BOC share of the nationwide ATM market is 14 percent); *IDC April 2002 Frame Relay Report* at Figure 4 (Total BOC share of the frame relay market is 16.5 percent). The Bell companies' total share of the combined ATM/frame relay market is 14.4 percent. *See id.; IDC June 2002 ATM Services Report* at Figures 1 & 4.

[127] *See, e.g.*, *Stratecast ATM/Frame Relay Report* at 12 ("Thus far, the RBOCs have held a very small share of the frame relay market, primarily because they have only been allowed to offer intra-LATA services."); *Frost & Sullivan - New Demands for Capacity Increase Competition Among Packet Data Providers*, PR Newswire (Oct. 4, 1999) ("Because users can be exposed to a wide array of data access technologies, the ability to offer seamless, end-to-end service is becoming critical to winning new customers.") (quoting Isabelle Gallo, Frost and Sullivan Telecommunications Industry Analyst). *See also* WorldCom, *Metro Frame Relay Service*,

even when they are permitted to compete on a level playing field, they will face an uphill battle competing with the big three incumbents.[128]

Figure 2. Market Share of Nationwide ATM and Frame Relay Revenues 2001



Sources: R. Kaplan, IDC, *U.S. ATM Services Forecast and Analysis, 2001-2006* at Figure 4 (June 2002); R. Kaplan, IDC, *U.S. Frame Relay Services Forecast and Analysis, 2001-2006* at Figure 4 (Apr. 2002).

Local Services for Large Business Customers. As explained above, CLECs are now obtaining special access from ILECs in order to connect large business customers to the CLEC's own local networks. Competition has been thriving in this segment of the local market. In the Bell companies' territory, CLECs now serve between 13 and 20 million switched access lines using their own last-mile facilities, or those of other suppliers (including ILECs).[129] This represents between 20 and 28 percent of all business lines within the BOCs' territories.[130] In the last three years alone, CLECs' share of the switched access lines provided to business customers has more than doubled.[131] ALTS has recently stated that "CLECs are collectively on course to generate positive EBITDA in 2002, probably for the first time in their history."[132] According to

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http://www.worldcom.com/us/products/datanetworking/framerelay/metro (WorldCom's Metro Frame Relay service "offers an aggressive price position compared to that offered by LECs. LECs can offer local (intraLATA) service, but they aren't able to cross LATA boundaries or move into other Regional Bell Operating Company (RBOC) territories.").

[128] *See, e.g.*, J. Halpern, *et al.*, Bernstein Research Call, *AT&T: Gauging the Benefits to AT&T When the Wheels Fly Off at WorldCom* at 2 (Sept. 17, 2002) ("Our expected-value scenario analysis leads us to believe that AT&T stands to gain 100-400bp of share of the large corporate data market over the next three years as the RBOCs struggle to define their Fortune 1000 strategy and learn the basics of provisioning super-regional, national, and international data networks.").

[129] *See UNE Fact Report 2002* at IV-1 – IV-2.

[130] *See UNE Fact Report 2002* at IV-3.

[131] *See UNE Fact Report 2002* at Table I-5; *FCC July 2002 Local Competition Report* at 5, Table 2 (showing an increase in CLEC share of the switched access lines provided to business customers from 10 percent at year-end 1999 to 21 percent at year-end 2001).

[132] ALTS, *Progress Report on the CLEC Industry* at i, 5 (Oct. 17, 2002).

ALTS, "now we see solid, well-financed companies [ready] to compete head-to-head with Bell companies."[133]

[133] *CLEC Industry Will Revive in 2003, Report Says*, Communications Daily at 4 (Oct. 18, 2002).

APPENDIX A. ADDITIONAL SOURCES

Table 1. Special Access Competition (as of YE 2001)
CLEC Fiber Route Miles (local and longhaul). New Paradigm Resources Group, Inc., *CLEC Report 2002*, Ch. 4 at Table 13 (15th ed. 2002) (This is a highly conservative estimate. It does not include 117,000 route-miles of fiber that NPRG lists for competitive Independent Operating Companies, utility CLECs, data providers, or Gig-E providers. Moreover, the total miles for 2001 have been adjusted downward to address the concerns that CLECs raised in the Special Access proceeding in April 2001 (CC Docket No. 96-98)). ***CLEC Networks in the Top 150 MSAs.*** New Paradigm Resources Group, Inc., *CLEC Report 2002*, Ch. 6 (15th ed. 2002). ***CLEC Buildings Served On-Net.*** *See* Joint Comments of Allegiance Telecom, Inc. and Focal Communications Corporation at 25, *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (FCC filed June 11, 2001); Comments of WorldCom, Inc. at 7, CC Docket No. 96-98 (FCC filed June 11, 2001). ***CLEC Buildings Served Off-Net.*** New Paradigm Resources Group, Inc., *CLEC Report 2002*, Ch. 4 at Table 19 (15th ed. 2002). This is a highly conservative estimate. It excludes not only the buildings served by literally dozens of CLECs, but also does not include the 27,000 additional buildings NPRG reports for competitive Independent Operating Companies, utility CLECs, data providers, Gig-E providers, fiber layers, and other providers, as well as the 30,000 on-net buildings reported by CLECs themselves, as noted above. *See id.* Moreover, the total buildings have been adjusted downward to address the concerns that CLECs raised in the Special Access proceeding in April 2001 (CC Docket No. 96-98). ***CLEC Voice-Grade-Equivalent Special Access Lines.*** *See* Table 10. CLEC Voice-Grade Equivalent Lines Reported to Investors. ***CLEC Special Access Revenues.*** New Paradigm Resources Group, Inc., *CLEC Report 2002*, Ch. 3 at Table 12 (16th ed. 2002).

Table 2. FCC Findings
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Table 3. IXC Use of Competitive Access Networks
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