

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

In the Matter of)
)
Implementation of the Local Competition) CC Docket No. 96-98
Provisions in the Telecommunications Act)
of 1996)

SPECIAL ACCESS FACT REPORT

Submitted by the United States Telecom Association

**Prepared for Bell Atlantic, BellSouth,
GTE, SBC, and U S WEST**

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FOREWORD

This report was prepared on behalf of the Bell Operating Companies (Bell Atlantic, BellSouth, SBC, and U S WEST), and GTE. These companies supplied us with internal data, and helped us to understand its competitive significance. We also drew extensively from public sources, including the trade press, industry reports, company disclosures to the investment community, and databases compiled by independent analysts. All proprietary information regarding competitors' use of ILEC network elements, capabilities, and services was kept strictly confidential, and is presented only in aggregate form.

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SPECIAL ACCESS

“Special access’ is the name given by this Commission to a variety of services and facilities which constitute the local portion of certain interstate telecommunications lines.”¹ Special access “primarily involves the provisioning of so-called ‘private lines,’ that is, facilities or network transmission capacity dedicated to the use of an individual customer.”² These dedicated facilities typically “run directly between the end user and the [interexchange carrier’s] point of presence (POP),”³ or directly between two end-user locations.

Both regulatory history and market factors clearly separate and distinguish special access from all other types of local exchange service and interoffice transport. The Commission opened special access to competition in the 1980s, a full decade before passage of the 1996 Act. Competition for these services has therefore had much longer to develop. And the customers for special access “are IXCs and large businesses, not residential or small business end users.”⁴ Special access is bought mainly by the interexchange carriers themselves,⁵ to transport large volumes of traffic to and from their largest business customers.⁶ In Bell Atlantic’s region, for example, AT&T, MCI WorldCom, and Sprint alone account for more than half of Bell Atlantic’s special access revenues.⁷

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

²*Id.*

³*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, CC Docket No. 96-262 et al., ¶ 8 (rel. Aug. 27, 1999) (“Pricing Flexibility Order”).

⁴*Id.* ¶ 142.

⁵*See, e.g.*, Comments of Qwest Communications Corp. at 76, *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98 (FCC filed May 26, 1999) (“The vast majority of dedicated transport demand can be found with three customers (AT&T, MCI WorldCom and Sprint), each of whom has a strong strategic motivation to move its access business to a competitor (in addition to any cost savings).”).

⁶As the 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 parts of the country.” Daniel Kelley, *Deregulation of Special Access Services: Timing Is Everything*, at 7-8 (Jun. 25, 1999), attached to *ex parte* filing of the Association of Local Telecommunications Services, CC Docket No. 99-24 (FCC filed Jul. 1, 1999).

⁷*See* Petition of Bell Atlantic for Forbearance at 7, *Petition of Bell Atlantic Telephone Companies for Forbearance from Regulation as Dominant Carriers in Delaware; Maryland; Massachusetts; New Hampshire; New Jersey; New York; Pennsylvania; Rhode Island; Washington, D.C.; Vermont; and Virginia*, CC Docket No. 99-24 (FCC filed Jan. 20, 1999) (“Bell Atlantic Forbearance Petition”).

I. Special Access Competition

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.⁸ By 1997, TCG’s annual report would claim that it was AT&T’s “preferred national supplier” of special access services.⁹ Shortly thereafter, AT&T acquired TCG for \$11 billion.¹⁰

Other competitive access providers developed equally successfully during that period. Institutional Communications Company (ICC), the second major CAP, was formed in 1986 in Washington, D.C.¹¹ In 1987, Chicago Fiber Optic (soon to be MFS) began building a network to provide special access in downtown Chicago.¹² In 1991, ICC was acquired by MFS.¹³ And in December 1996, MFS itself was acquired by WorldCom for \$14 billion.¹⁴

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 1992,¹⁵ 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.”¹⁶ See Tables 1 & 2.

In 1992, the Commission opened a second pathway to special access competition: It required incumbent LECs to provide collocation to competitive access providers.¹⁷ This

⁸*Cox Cable Communications, Inc.*, Memorandum Opinion, 102 FCC2d 110, ¶ 40 (1985), *vacated as moot*, 61 Rad. Reg. 967 (1986).

⁹ Teleport Communications Group, 1996 Form 10-K405 (SEC filed Mar. 27, 1997).

¹⁰See AT&T News Release, *AT&T Completes TCG Merger* (Jul. 23, 1998); S. Schiesel, *AT&T to Pay \$11.3 Billion for Teleport*, N.Y. Times, at D1 (Jan. 9, 1998).

¹¹See New Paradigm Resource Group, Inc., *The 1999 CLEC Report*, Ch. 2 at 3 (10th ed. 1999) (“1999 CLEC Report”).

¹²See *id.*

¹³See *id.*

¹⁴See WorldCom Press Release, *WorldCom, Inc. and MFS Announce Merger to Form Premier Business Communications Company* (Aug. 26, 1996).

¹⁵See J. Kraushaar, Industry Analysis Division, Common Carrier Bureau, FCC, *Fiber Deployment Update, End of Year 1996*, at Table 14 (1997).

¹⁶*Expanded Interconnection with Local Telephone Company Facilities*, Notice of Proposed Rulemaking and Notice of Inquiry, 6 FCC Rcd 3259, 3260 (1991); Remarks by Richard M. Firestone, Chief, Common Carrier Bureau, FCC, Ninth Annual FCBA/PLI Conference, “Telecommunications Policy and Regulation,” FCC, Dec. 2, 1991.

¹⁷See *Expanded Interconnection with Local Telephone Company Facilities*, Report and Order, 7 FCC Rcd 7369 (1992).

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.¹⁸ 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.”¹⁹ 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.”²⁰ See Tables 1 & 2.

Table 1. FCC Findings
1990 “New facilities-based competition has emerged in the high capacity special access market.” ^a
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” ^b
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.” ^c
1992 “We are granting the LECs increased pricing flexibility to respond to competition for special access services.” ^d
1992 “Even without expanded interconnection, LECs are already facing access competition, for example, as reflected in the proliferation of ‘closet POP’ arrangements.” ^e
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.” ^f
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.” ^g
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.” ^h
1996 “Competitors have begun to provide exchange access services, aided in significant part by our expanded interconnection policies.” ⁱ
Sources: See Appendix B.

¹⁸See Connecticut Research, *1995/96 Local Telecommunications Competition*, at Table II-2 (7th ed. 1995) (“1995/96 CLEC Report”).

¹⁹FCC News Release, *Common Carrier Competition*, 1995 FCC LEXIS 3544 (May 31, 1995).

²⁰F.J. Governali, et al., *Credit Suisse First Boston Corporation, Investext Rpt. No. 2563177, Teleport Communications Group, Inc. – Company Report at *6* (Jul. 7, 1997) (emphasis added).

Table 2. IXC Use of CAP Networks
<p>“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.”^a</p>
<p>“IXCs usually become the first customers and remain a high percentage of the CAP’s revenue mix until the fiber network passes a higher percentage of end users in the local market. And then, salespersons are able to penetrate a larger number of office buildings.”^b</p>
<p>“[Brooks Fiber] has established close business alliances with major IXCs, including joint ventures and preferred vendor relationships. In accordance with this strategy, the Company and MCImetro Access Transmission Services . . . have entered into agreements which provide that, until September 30, 2001, [Brooks] will be MCImetro’s preferred provider of certain local access services in a number of [Brooks’] markets . . . Also, in December 1995, [Brooks Fiber] concluded a national preferred vendor agreement with AT&T . . . pursuant to which [Brooks] has become AT&T Communications’ preferred supplier of local access services in most of [Brooks’] markets.”^c</p>
<p>“At its inception, ICI provided special access and private line services to IXCs.”^d</p>
<p>“ACSI is committed to the support of our traditional carrier customers such as AT&T and MCI.”^e</p>
<p>“[AT&T] will continue to pursue arrangements with [companies other than incumbent local exchange carriers] that provide access to customers.”^f</p>
<p>“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.”^g</p>
<p>“AT&T now gives more than half of all of its local dedicated access orders to the CLECs, as opposed to the ILECs.”^h</p>
<p>“Although CLECs can offer more services now, the IXCs are still important to the CLECs. The IXC special access traffic can provide a solid base of revenue when a CLEC first activates a network in a city and is trying to develop its local dial tone customer base.”ⁱ</p>
<p>Bob Annunziata, 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).”^j</p>
<p>“Included in the synergies [of the MCI/WorldCom merger] are . . . \$113 million from savings in dedicated and switched access, private line and WATS.”^k</p>
<p>“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.”^l</p>
<p>“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.”^m</p>
<p>“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.”ⁿ</p>
<p>“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).”^o</p>
<p>The proposed MCI WorldCom/Sprint merger would generate “special access savings of \$270 million in 2001 from the elimination of Sprint’s leased entrance facilities and utilizing WCOM-owned entrance facilities.”^p</p>
<p>Sources: See Appendix B.</p>

Today, over 100 carriers provide competitive access services.²¹ See Appendix A. By the end of 1999, CLECs had deployed over 160,000 route miles of fiber.²² Nearly 50 CLECs generate 10 percent or more of their revenues from special access/private line services. See Appendix A. The largest CLECs – AT&T and MCI WorldCom – provide access services to themselves and are their own largest customers.²³ Many of the largest independent CLECs, such as ICG and e.spire, started out as competitive access providers, and special access services remain a major source of their revenue and profit.²⁴ Many of the newer CLECs, such as WinStar, KMC Telecom, and US LEC, put a heavy business emphasis on special access, too.²⁵

In analyzing special access competition, both the Commission's own local competition surveys,²⁶ and the leading independent study of the CLEC industry – New Paradigm Resources Group's *CLEC Report 2000*²⁷ – treat special access and local private line service as a single category. Special access and local private line are indeed close substitutes. They are both “specialized services” that “are provided to business customers” that wish to haul large volumes of traffic between two fixed points.²⁸ Most CLEC fiber networks are in fact used interchangeably for private line and special access services.²⁹

²¹See FCC, *Telecommunications Industry Revenue: TRS Fund Worksheet Data*, at Figure 2 (Nov. 1997) (109 carriers reporting that they provide competitive access services).

²²See New Paradigm Resources Group, Inc. *CLEC Report 2000*, Ch. 5 at Table 4 (11th ed. 2000) (“*CLEC Report 2000*”).

²³See, e.g., E. Struminger, 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).”).

²⁴See *CLEC Report 2000*, Ch. 8 - ICG at 3, e.spire at 6.

²⁵See *id.* Ch. 8 – WinStar at 8, KMC at 15, US LEC at 4.

²⁶See FCC, Industry Analysis Division, Common Carrier Bureau, *Local Competition*, at Table 2.4 (Dec. 1998) (“*Local Competition: December 1998*”) (computing CAP/CLEC market share of “local private line and special access service”); FCC, Industry Analysis Division, Common Carrier Bureau, *Local Competition: August 1999*, at Table 2.4 (Aug. 1999) (“*Local Competition: August 1999*”) (same); see also *Local Competition and Broadband Reporting*, Notice of Proposed Rulemaking, CC Docket No. 99-301 (rel. Oct. 22, 1999) (proposing that, for the purposes of measuring local competition in the future, carriers should: “For reporting voice grade lines, classify as special access all dedicated lines connected to an end user at one end, passed through your switch or switching center, and thence connected to another communication carrier’s switch or network, even if these were provided under private line rather than special access tariffs.”).

²⁷See *CLEC Report 2000*, Ch.1 at Table 3, Ch. 6 at Tables 16-18.

²⁸*Applications of Ameritech Corp., Transferor, and SBC Communications, Inc., Transferee, for Consent To Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95 and 101 of the Commission’s Rules*, Memorandum Opinion And Order, 14 FCC Rcd 14712, ¶ 25 (1999).

²⁹See, e.g., *Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from Tele-Communications, Inc., Transferor, to AT&T Corp., Transferee*, Memorandum Opinion and Order, 14 FCC Rcd 3160, ¶ 131 (1999) (noting that over its fiber networks “Teleport provided private line and special access services in Boston, San Francisco, Los Angeles, Chicago, Dallas, Houston, and metropolitan New York”); *Application of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications Corporation to WorldCom, Inc.*, Memorandum Opinion And Order, 13 FCC Rcd 18025, ¶ 209 (1998) (noting that WorldCom’s networks “were originally built by MFS as a competitive access provider (CAP)

According to New Paradigm, by 1995 competitors were already earning over \$500 million in special access/private line revenues.³⁰ By 1998, competitors were earning nearly \$2.5 billion from providing special access/private line service³¹ – about 29 percent of the amount earned by the Bell companies and GTE.³² New Paradigm estimates that, in 1999, CLECs will earn nearly \$5.7 billion from providing special access/private line service³³ – about 52 percent of the amount the Bell companies and GTE will earn.³⁴ See Figure 1. CLECs' market share of the total special access/private line market in 1999 will be roughly 33 percent – about as high as MCI WorldCom's and Sprint's combined share of the long-distance market.³⁵

network designed to serve business customers with special access and private line needs. . . . it deployed fiber based on considerations that relate exclusively to business customers.”).

³⁰See New Paradigm Resources Group, Inc., & Connecticut Research, *1997 Annual Report on Local Telecommunications Competition*, at Table 13 (8th ed. 1996).

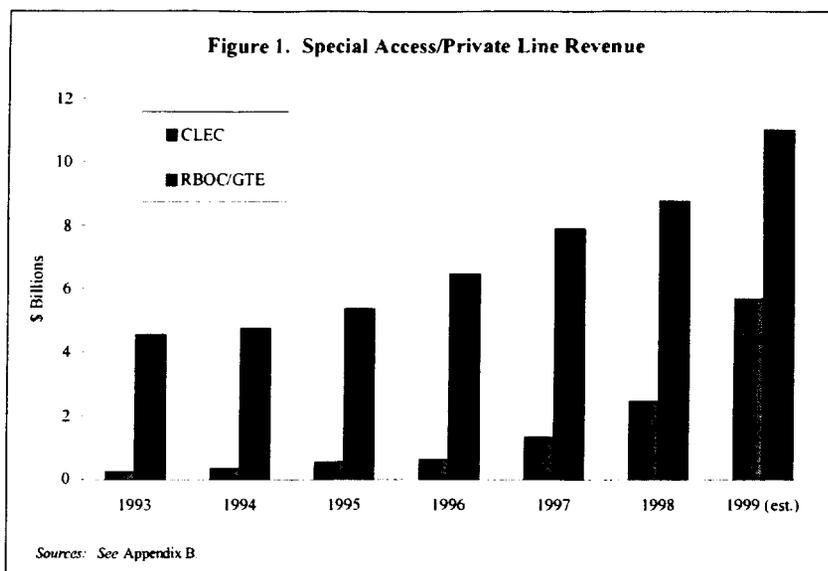
³¹New Paradigm Resource Group, *Local Telecommunications Market Share* at Table 5 (Jun. 1999). Although the Commission reported that CAPs/CLECs earned only \$1.1 million in special access/private line revenue in 1998, it also reported that IXCs earned \$1.9 billion in “local” revenues, which presumably consists mostly of exchange access services that these carriers (particularly AT&T and MCI WorldCom) provide to themselves. See J. Lande, FCC, *Telecommunications Industry Revenue: 1998*, at Tables 4-6 (“1998 FCC Revenue Report”).

³²*Id.* at Table 5 (line 24), Table 6 (line 36) (\$9.2 billion interstate and intrastate “local private line and special access service” for all incumbent LECs); FCC, *Statistics of Communications Common Carriers, 1999 ed.* at Table 2.9 (1999) (“1999 Common Carrier Statistics”) (BOCs/GTE account for approximately 95 percent of ILEC special access revenues).

³³New Paradigm's past estimates have proven accurate or conservative. Compare, e.g., Connecticut Research, *1994 Local Telecommunications Competition*, at Table V-1 (6th ed. 1994) (“1994 CLEC Report”) (forecasting \$470 million CLEC dedicated access revenues for 1995) with New Paradigm Resources Group, Inc., & Connecticut Research, *1997 Annual Report on Local Telecommunications Competition*, at Table 13 (8th ed. 1996) (\$540 million CLEC dedicated access revenues for 1995); and *id.* (forecasting \$748 million in 1997) with New Paradigm Resources Group, Inc., *1998 Annual Report on Local Telecommunications Competition*, Ch. 1 at Table 3 (9th ed. 1998) (\$1.3 billion in 1997).

³⁴*CLEC Report 2000*, Ch. 6 at Table 16; *1998 FCC Revenue Report* at Tables 5 & 6; *1999 Common Carrier Statistics* at Table 2.9. The ILEC figure (\$11.6 billion) was estimated using a 25.8% growth rate, the same rate of growth as the previous year. Compare *id.* with FCC, *Statistics of Communications Common Carriers, 1998 ed.* at Table 2.9 (1998).

³⁵See FCC, *Trends in Telephone Service* at Table 11 (Sept. 1999). As the FCC has noted, the CLECs' high market share for special access-type services “reflects the fact that CAPs concentrated on providing special access-type services to business customers when they first entered the market and that these services continue to represent significant parts of their businesses.” *Local Competition: August 1999* at 12.



The Commission's Framework for Measuring Special Access Competition

In its *Pricing Flexibility Order*, the Commission developed a comprehensive “market-based” framework for measuring special access competition. That framework assesses competition “on an MSA basis,” which “best reflect[s] the scope of competitive entry, and [is] therefore a logical basis for measuring the extent of competition.”³⁶

Competition is gauged under a two-phase inquiry that measures the fraction of ILEC wire centers in an MSA in which competitors have obtained collocation. Under Phase I, an “irreversible, sunk investment” by competitors is deemed to exist for all components of special access except channel terminations when one or more collocation arrangements cover wire centers that generate 30 percent of the incumbent LEC’s special access revenues in the MSA.³⁷ For channel terminations, the Phase I trigger is met when one or more collocation arrangements cover wire centers that generate 65 percent of the incumbent LEC’s special access revenues in the MSA.³⁸

Under Phase II, a “competitive alternative” for all components of special access is considered to be available for all components of special access except channel terminations when one or more collocation arrangements cover wire centers that generate 65 percent of the incumbent LEC’s special access revenues in the MSA.³⁹ For channel terminations, the Phase II trigger is met when one or more collocation arrangements cover wire centers that generate 85 percent of the incumbent LEC’s special access revenues in the MSA.⁴⁰ Under both Phase I and

³⁶*Pricing Flexibility Order* ¶ 72.

³⁷*See id.* ¶ 93.

³⁸*See id.* ¶ 100.

³⁹*See id.* ¶ 149.

⁴⁰*See id.* ¶ 150.

Phase II, “at least one” of each wire center’s collocation agreements must be with a competitor that “relies on transport facilities provided by a transport provider other than the incumbent.”⁴¹

This approach, the Commission concluded, provides “a clear picture of competitive conditions in the MSA,” and “an easily verifiable, bright-line test to avoid excessive administrative burdens.”⁴² The framework supplies a systematic basis for concluding that “competitors have established a significant market presence,” and “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.”⁴³

The pricing flexibility standards admittedly do not attempt to measure what is quite probably the most significant form of special access competition – complete bypass, which competitors have long provided by running fiber directly from IXC POPs to end users.⁴⁴ As the Commission concluded in the *Pricing Flexibility Order*, any analysis that disregards full bypass competition must necessarily be a “conservative measure of competition” in special access markets.⁴⁵

Special Access and Collocation

In 182 of the 320 MSAs⁴⁶ in the United States served by the RBOCs and GTE, one or more collocation arrangements exist in wire centers that cover at least 30 percent of the incumbent LEC’s special access revenues in those MSAs. See Table 3.⁴⁷ These MSAs include

⁴¹*Id.* ¶ 82. In justifying this additional test, the Commission stated that, while “in the past, the presence of an operational collocation arrangement in a wire center almost always implied that a competitor has installed transmission facilities to compete with the incumbent,” new DSL-based competitors “usually collocate in order to gain access to the incumbent’s copper loops . . . not to compete with the incumbent for the provision of transport services.” *Id.*

⁴²*Id.* ¶ 78.

⁴³*Id.* ¶ 142.

⁴⁴In discussing competition for entrance facilities, the *UNE Remand Order* likewise did not mention the possibility of complete bypass. See *UNE Remand Order* ¶ 348.

⁴⁵*Pricing Flexibility Order* ¶ 104.

⁴⁶Bell Atlantic serves 72 MSAs; BellSouth serves 66; SBC serves 89; U S WEST serves 45; and GTE serves 156, of which 108 are also served by other companies. Where both GTE and another company serve the same MSA, that MSA has been counted only once in the aggregate (*i.e.*, multi-region totals).

⁴⁷In performing the collocation-based calculations in tables 3-5, only fiber-based collocation arrangements were counted. See *Pricing Flexibility Order* ¶ 82. Furthermore, these calculations included only collocation arrangements where the CLEC provides its *own* transport; they do not include arrangements where the CLEC takes transport from someone other than the ILEC (*e.g.*, from another CLEC), even though the *Pricing Flexibility Order* permits such arrangements to be counted in meeting the Phase I and Phase II triggers. See *id.* ILECs have no way of determining whether a CLEC with collocation is obtaining transport from a third party since the ILEC is not involved in such arrangements (the CLEC may, for example, simply run jumper cables from its collocation cage to that of another CLEC). The calculations presented in Tables 3-5 are therefore highly conservative.

45 of the nation's 50 largest,⁴⁸ and generate approximately 88 percent of all RBOC/GTE special access revenue.⁴⁹ See Table 3.

In 142 of the MSAs served by the RBOCs and GTE, one or more collocation arrangements exist in wire centers that cover at least 65 percent of the incumbent LEC's special access revenues in those MSAs. See Table 4. These MSAs include 35 of the nation's 50 largest, and generate approximately 72 percent of all RBOC/GTE special access revenue. See Table 4.

In 75 of the MSAs served by the RBOCs and GTE, one or more collocation arrangements exist in wire centers that cover at least 85 percent of the incumbent LEC's special access revenues in those MSAs. See Table 5. These MSAs include 13 of the nation's 50 largest, and generate approximately 31 percent of all RBOC/GTE special access revenue. See Table 5.

	Total #	# in top 50 U.S.	# in top 20 in-region	% of region-wide special access revenue*
Bell Atlantic	45	12	20	91
BellSouth	44	7	20	82
GTE	22	8	8	43
SBC**	53	20	20	99
U S WEST	31	6	19	69
Total***	182	45	80	88

*Includes both intrastate and interstate special access revenues. See *infra* Table 7. Counts only each company's wire centers within an MSA.
 Does not include SNET and Nevada Bell. *Total MSA counts exclude overlap between GTE and other companies.

	Total #	# in top 50 U.S.	# in top 20 in-region	% of region-wide special access revenue*
Bell Atlantic	27	4	10	54
BellSouth	38	7	18	78
GTE	11	5	5	19
SBC**	44	18	18	91
U S WEST	28	6	17	66
Total***	142	35	63	72

*Includes both intrastate and interstate special access revenues. See *infra* Table 7. Counts only each company's wire centers within an MSA.
 Does not include SNET and Nevada Bell. *Total MSA counts exclude overlap between GTE and other companies.

⁴⁸See Rand McNally, *1999 Commercial Atlas and Marketing Guide*, at 60 (130th ed. 1999).

⁴⁹In calculating the revenue percentages in tables 3-5, the denominator used is the special access revenue in each carrier's own wire centers within an MSA.

**Table 5. MSAs With 1 or More Fiber-Based Collocator Covering
85 Percent or More of Special Access Revenues in MSA**

	Total #	# in top 50 U.S.	# in top 20 in-region	% of region-wide special access revenue*
Bell Atlantic	14	3	4	35
BellSouth	27	7	12	66
GTE	6	1	1	7
SBC**	18	2	2	17
U S WEST	12	1	4	12
Total***	75	13	22	31

*Includes both intrastate and interstate special access revenues. See *infra* Table 7. Counts only each company's wire centers within an MSA.
Does not include SNET and Nevada Bell. *Total MSA counts exclude overlap between GTE and other companies.

Direct Connections to Interexchange Carriers

As described above, competitors began building fiber networks to provide direct connections between end users and IXC POPs over a decade ago. Before CLECs received collocation rights in 1992, the Commission found that "Competitive Access Providers (CAPs) . . . offer access services to large business customers in the central business districts of many major cities."⁵⁰ And even after collocation was permitted, many competitors still constructed direct bypass facilities to a significant degree.⁵¹ These facilities were invariably used to serve the very largest business customers, which generate a significant portion of all special access revenues.⁵² Today, by every available indication, CLECs serve a very large share of special access demand directly over their own facilities, without having any need to collocate at all. It is these direct connections that account for the fact that the competitors' special access revenues this year will be over 50 percent of the Bell companies' and GTE's, and about a third of the entire market.

Given that a large fraction (perhaps a substantial majority) of special access facilities completely bypass ILEC networks, any collocation-based analysis will significantly understate the actual degree of special access competition. A more complete assessment of special competition would also analyze the intersection of IXC POPs, CLEC transport facilities, and large end users.

There is one public database with information on the location of IXC POPs.⁵³ It contains information only for the big three long-distance carriers, and gives no indication of the facilities

⁵⁰*Expanded Interconnection with Local Telephone Company Facilities*, Notice of Proposed Rulemaking, 6 FCC Rcd 3259, ¶ 2 (1991).

⁵¹For example, according to the Commission's statistics, CLECs deployed 1,377 new route miles of fiber in 1992; 2,109 in 1993; 3,559 in 1994, and 7,936 in 1995. See J. Kraushaar, FCC, *Fiber Deployment Update - End of Year 1996*, at Table 14 (1997). According to the 1994 and 1995/96 CLEC Reports, CLECs deployed 6,503 new route miles of fiber in 1994 and 9,721 in 1995. See *1994 CLEC Report* at I-2, II-3, VII-1-115; *1995/96 CLEC Report* at II-2, VII-1-120.

⁵²See, e.g., Affidavit of M. McCullough ¶ 8, attached to *Bell Atlantic Forbearance Petition* (large businesses generate 31% of special access revenue, with remainder by three largest IXCs (53%), other IXCs and cellular carriers (14%), and federal government (2%)).

⁵³MapInfo Corporation, *POPInfo*, Sept. 1999.

to which these POPs connect. It is reasonable to assume, however, that, where a CLEC has obtained collocation in a wire center serving area that contains an IXC's POP, the CLEC will connect its facilities to that POP.⁵⁴ This framework of analysis, applied to the one public database available, indicates that 59 percent of the AT&T, MCI WorldCom, and Sprint POPs within RBOC/GTE MSAs are located in wire centers in which CLECs have obtained collocation. Forty-one percent of these POPs are in wire centers with two or more CLECs with collocation. Twenty-eight percent are in wire centers with three or more CLECs with collocation. See Table 6.⁵⁵

	Percentage of IXC POPs located in wire centers with fiber-based collocation by:		
	1 or more CLECs	2 or more CLECs	3 or more CLECs
Bell Atlantic	N/A	N/A	N/A
BellSouth	78	66	53
GTE	24	16	8
SBC	70	45	29
U S WEST	70	48	31
Total*	59	41	28

*Does not include Bell Atlantic.

By every available indication, however, the intersection of IXC POPs, CLEC transport facilities, and large end users is even closer than this limited analysis suggests. Moreover, it is reasonable to assume that, where competitors connect to the largest IXCs' POPs, smaller IXCs also can obtain access to competitive special access facilities.⁵⁶ Very few IXCs have networks that extend into every MSA or LATA; most therefore still rely extensively on the networks of the larger carriers. Carriers typically do this by leasing dedicated facilities, which the FCC's rules guarantee them a right to do.⁵⁷ To the extent second-tier IXCs use the first-tier providers' networks to get traffic to and from an MSA, they will have equally good access to competitive special-access service.

⁵⁴ The Commission has indicated it shares that view: it "seems likely that, when a competitor initially enters a market, most of these transmission facilities will be 'trunk-side' facilities, i.e., facilities leading from the collocated equipment to the IXC POP rather than to the customer premises. This is because competitors can use those facilities to carry highly concentrated traffic between, for example, serving wire centers and POPs." *Pricing Flexibility Order* ¶ 81.

⁵⁵ Data for Bell Atlantic were unavailable to perform this calculation.

⁵⁶ This responds to the Commission's concern in the *UNE Remand Order* that the ILECs' data did not indicate whether competitive entrance facilities "connect incumbent LEC serving wire centers to all or substantially all of the interexchange carrier points of presence." *UNE Remand Order* ¶ 348.

⁵⁷ See, e.g., *AT&T Restrictions on Interconnection of Private Line Services*, Memorandum Opinion and Order, 60 FCC2d 939, 946 ¶ 19 (1976); *Regulatory Policies Concerning Resale and Shared Use of Common Carrier Services and Facilities*, Report and Order, 60 FCC2d 261 (1976) (*Facilities Resale*), *mod'd on recon.*, 62 FCC2d 588 (1977) (*Resale and Shared Use*), *aff'd*, *AT&T v. FCC*, 572 F.2d 17 (2d Cir.), *cert. denied*, 439 U.S. 875 (1978); *AT&T, Restrictions on Resale and Sharing of Switched Services*, Memorandum Opinion and Order, 53 Rad. Reg.2d (P & F) 112 (1983) (extending resale rights to intrastate WATS used for "access" to interstate communication), *aff'd sub nom.*, *NARUC v. FCC*, 746 F.2d at 1492.

Only IXC and CLEC themselves have the information that could definitively describe the full extent of CLEC bypass. They are not subject to Commission reporting requirements, however, and “they are often unwilling to provide this information voluntarily.”⁵⁸ IXCs likewise report no comprehensive data regarding the location of their POPs, or the extent to which these POPs are connected to end users by competitive facilities. Absent the release of comprehensive data that only they possess, the presumption must surely be that special access markets are now fully competitive. All the aggregate revenue figures so indicate, and the CLECs themselves so claim, albeit without detailed quantitative backup, in statements they make to market analysts outside the regulatory arena.

II. Special Access Revenues

In 1999, the RBOCs and GTE generated approximately \$6 billion from providing special access services – approximately \$5.3 billion from interstate special access and approximately \$605 million from intrastate special access. See Table 7.⁵⁹

	Interstate	Intrastate	Total
Bell Atlantic	\$1.6 billion	\$57 million	\$1.6 billion
BellSouth	\$1.0 billion	\$29 million	\$1.1 billion
GTE	\$389 million	\$51 million	\$440 million
SBC*/**	\$1.8 billion	\$457 million	\$2.3 billion
U S WEST**	\$506 million	\$11 million	\$517 million
Total***	\$5.3 billion	\$605 million	\$6.0 billion

*Does not include SNET and Nevada Bell. **Includes only high-capacity special access services (e.g., DS-1 and DS-3).
*** Totals do not always add due to rounding.

Converting Special Access to UNE Rates: Financial Impact

Special access services are currently provided under tariff, and are subject to price-cap regulation.⁶⁰ An ILEC will be exempted from price-cap regulation when it satisfies the Phase II triggers in the Commission’s pricing flexibility rules, described above.⁶¹ Though price-cap rates are periodically adjusted to account for some changes in inflation, productivity, and exogenous costs,⁶² they are not directly tied to forward-looking costs or profit margins.⁶³

⁵⁸Pricing Flexibility Order ¶ 96.

⁵⁹The information in Tables 7-10 is based on internal data provided by the individual companies. These figures are estimates based on partial-year reporting. These figures are lower than the special access/private line totals provided at the beginning of this report (see *infra* page 6 & Figure 1) for two reasons. First, they exclude local private line revenues. Second, the totals for U S WEST and SBC include revenues only from high-capacity special access services – for example, DS-1 and DS-3. SBC’s intrastate total is unusually high due to the enormous volume of intrastate access service in California.

⁶⁰See *Policy and Rules Concerning Rates for Dominant Carriers*, Second Report and Order, 5 FCC Rcd 6786, 6788 (1990) (“*LEC Price Cap Order*”).

⁶¹No incumbent LEC has yet filed for Phase II relief, though the data presented above indicate that such relief could be obtained in a large number of MSAs.

⁶²See *LEC Price Cap Order* ¶¶ 50-54, 75, 166-189. These adjustments are designed to ensure that prices fall over time in real, inflation-adjusted terms. See *id.* ¶¶ 47-331.

UNE prices, by contrast, are based on the Commission's TELRIC methodology.⁶⁴ They reflect the incremental, forward-looking cost of a hypothetical, ideally efficient, state-of-the-art network.⁶⁵ As a result, TELRIC rates are generally well below actual (historical) cost, and therefore well below price-cap rates.⁶⁶

Any flash cut switch from price-cap to TELRIC rates would reduce ILEC revenues abruptly and sharply. RBOCs and GTE would lose approximately [REDACTED] in interstate special access revenues in the first year after such conversion, and approximately [REDACTED] in the second year. See Table 8.⁶⁷ In addition, the RBOCs and GTE would lose approximately [REDACTED] in intrastate special access revenues in the first year after such conversion, and approximately [REDACTED] in the second year. See Table 8.

	Year 1 Impact			Year 2 Impact		
	Interstate	Intrastate	Total	Interstate	Intrastate	Total
Bell Atlantic	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
BellSouth	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
GTE	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
SBC*/**	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
U S WEST**	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Total***	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED

*Does not include SNET and Nevada Bell. **Includes only high-capacity special access services (e.g., DS-1 and DS-3).
*** Totals do not always add due to rounding.

These estimates of financial impact take into account the possibility that not all special access revenues will immediately convert to UNEs. Some companies provide special access to interexchange carriers under long-term arrangements subject to early termination penalties. In some cases, these termination penalties might be greater than the savings from terminating the contracts and converting to UNEs, in which case it was assumed that IXCs would not make the switch. In cases where the termination penalties are smaller than the savings from converting to

⁶³As the starting point for price-capped rates, the Commission used July 1, 1990 rates. *See id.* ¶¶ 17, 230-244.

⁶⁴*See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, 11 FCC Rcd 15499, ¶ 678 (1996).

⁶⁵*See id.* ¶¶ 685, 690.

⁶⁶*See, e.g., A. Kahn, Letting Go: Deregulating the Process of Deregulation, or: Temptation of the Kleptocrats and the Political Economy of Regulatory Disingenuousness* 91 (1998); G. Sidak & D. Spulber, *Givings, Takings, and the Fallacy of Forward-Looking Costs*, 72 N.Y.U. L. Rev. 1068 (1997).

⁶⁷The estimates in Tables 8 and 9 are based on internal data and calculations provided by the individual companies. These calculations used estimates of each company's rates of growth for special access; estimates of the difference between each company's special access rates and UNE rates; estimates of the impact of termination liabilities and long-term contracts in inducing customers to convert; and estimates of the offsetting impact of such termination liabilities where it was assumed that customers with long-term contracts would choose to convert.

UNEs, however, it was assumed that IXC's would make the switch, but the net revenue loss was offset by the amount of the early termination penalties. See Table 9.⁶⁸

	Year 1 Impact		Year 2 Impact	
	Gross loss (interstate and intrastate)	Amount recovered in termination liabilities	Gross loss (interstate and intrastate)	Amount recovered in termination liabilities
Bell Atlantic	REDACTED	REDACTED	REDACTED	REDACTED
BellSouth	REDACTED	REDACTED	REDACTED	REDACTED
GTE	REDACTED	REDACTED	REDACTED	REDACTED
SBC*/**	REDACTED	REDACTED	REDACTED	REDACTED
U S WEST**	REDACTED	REDACTED	REDACTED	REDACTED
Total***	REDACTED	REDACTED	REDACTED	REDACTED

*Does not include SNET and Nevada Bell. **Includes only high-capacity special access services (e.g., DS-1 and DS-3).
*** Totals do not always add due to rounding.

These estimates are conservative in one other significant respect. They do not take into account the fact that, if special access prices drop sharply, “a significant amount of long distance traffic would migrate to special access from switched access.”⁶⁹ In other words, IXC's that now purchase an incumbent's switched access service will instead become customers of the ILEC's special access service (which they could then purchase at UNE rates). “It is generally recognized” that switched and special access substitute for each other at the margins, and that any decrease in the price of special access therefore “will induce some end users currently using switched access to opt for special access.”⁷⁰

The cross-over point between switched and special access depends, of course, on a customer's traffic volumes and the price of each type of access. Any sharp reduction in the price of special access will concomitantly lower the point at which a customer's traffic volumes favor special access over switched. In a 1993 study submitted by the Federal Trade Commission's Bureau of Economics in the *Expanded Interconnection* proceedings, it was estimated “that the elasticity of substitution in demand between switched and special access is -0.34 for AT&T and -0.21 for the Other Common Carriers.”⁷¹ In other words, “a price increase in switched access relative to special access of 10% would induce a 3.4% decrease in the proportion of switched to special access demanded by AT&T and a 2.1% decrease for the OCCs.”⁷² Assuming the elasticity of substitution remained the same today, a 50 percent decrease in the price of special access relative to switched access, would result in a 17 percent decrease in the proportion of switched to special access demanded by AT&T and a 10.5 percent decrease for other

⁶⁸Individual companies used different methodologies to assign the offset from termination liabilities to different years. BellSouth, GTE, and U S WEST assigned the entire offset to year 1.

⁶⁹Comment of the Staff of the Bureau of Economics of the Federal Trade Commission at *5, *Expanded Interconnection with Local Telephone Company Facilities Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board*, CC Docket No. 91-141 Transport Phases I & II; CC Docket No. 80-286, 1993 FCC LEXIS 1173 (FCC filed Mar. 5, 1993).

⁷⁰*Id.*

⁷¹*Id.* at *33.

⁷²*Id.*

interexchange carriers. This substitution – UNE-based special access in place of switched access – would further reduce incumbents’ revenues beyond the estimates provided above.

Financial Impact in Areas Meeting Pricing Flexibility Triggers

As described above, special access competition has developed more quickly in some places than in others. In particular, competition has emerged in areas with the highest concentration of special access revenues. Although ILECs already have lost a very large share of all special access revenues in these competitive areas, a considerable amount still remains at stake.

In the RBOC/GTE MSAs that meet the 30-percent revenue trigger, the flash cut from price-cap to TELRIC rates would reduce special access revenues in those MSAs by approximately [REDACTED] in the first year after such conversion, and approximately [REDACTED] in the second year. In the MSAs that meet the 65-percent revenue trigger, the flash cut would reduce special access revenues by approximately [REDACTED] in the first year and approximately [REDACTED] in the second year. In the MSAs that meet the 85-percent revenue trigger, the flash cut would reduce special access revenues by approximately [REDACTED] in the first year and approximately [REDACTED] in the second year. See Table 10.

Table 10. Estimated Net Revenue Loss of Converting Special Access to UNE Rates in MSAs Meeting Pricing Flexibility Triggers						
	Net loss in MSAs meeting 30% revenue trigger		Net loss in MSAs meeting 65% revenue trigger		Net loss in MSAs meeting 85% revenue trigger	
	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
Bell Atlantic	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
BellSouth	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
GTE	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
SBC*/**	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
U S WEST**	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED
Total***	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED	REDACTED

*Does not include SNET and Nevada Bell. **Includes only high-capacity special access services (e.g., DS-1 and DS-3).
 *** Totals do not always add due to rounding.

Appendix A CLECs That Provide Special Access	
Adelphia	60% of 1999 revenue from dedicated access/transport*
American MetroComm	5% of 1999 revenue from dedicated access/transport*
Advanced Radio Telecom	20% of 1999 revenue from dedicated access/transport* “ART can provide IXC carriers with a way to provide direct dedicated access services between a customer site and the IXC’s local point of presence (POP) without using RBOC facilities.” ¹
ATI	Projected 3% of 2000 revenue from dedicated access/transport*
AT&T	25% of 1999 revenue from dedicated access/transport* “TCG will be able to connect end-users to its own network, initially deploying private lines and special access services as it connects buildings.” ²
Avista	Projected 3% of 2000 revenue from dedicated access/transport*
Birch	Provides dedicated access services**
Bresnan	25% of 1999 revenue from dedicated access/transport*
BroadSpan	“BroadSpan offers . . . a full range of competitively priced, state-of-the-art communications services, including . . . dedicated-access services.” ³
BTI	30% of 1999 revenue from dedicated access/transport*
Buckeye TeleSystem	25% of 1999 revenue from dedicated access/transport*
Cambridge TelCom	10% of 1999 revenue from dedicated access/transport*
CapRock	15% of 1999 revenue from dedicated access/transport**
Cavalier Telephone	15% of 1999 revenue from dedicated access/transport*
CFW Telephone	30% of 1999 revenue from dedicated access/transport*
Conectiv	30% of 1999 revenue from dedicated access/transport**
Coyote	“Facilities-based domestic and international long-distance carriers use Coyote Technologies’ DSS Switch to provide . . . dedicated access services.” ⁴
Crystal Comm.	9% of 1999 revenue from dedicated access/transport**
CTS Telecom	15% of 1999 revenue from dedicated access/transport**
CTSI, Inc.	5% of 1999 revenue from dedicated access/transport*
Digital Teleport	75% of 1999 revenue from dedicated access/transport**
e.spire	10% of 1999 revenue from dedicated access/transport* In 1997, formed 5-year agreement with MCI to provide special access in 21 cities. ⁵
Eagle Communications	20% of 1999 revenue from dedicated access/transport**
Electric Lightwave	20% of 1999 revenue from dedicated access/transport**
FiberNet Telecom Group	40% of 2000 revenue from dedicated access/transport*
First Regional TeleCom	15% of 1999 revenue from dedicated access/transport**
FirstWorld	4% of 1999 revenue from dedicated access/transport* “The Company offers a range of dedicated access services, including DS-1(T1) and DS-3 digital channels and optical carrier services up to and including OC-48.” ⁶
Gabriel Communications	5% of 1999 revenue from dedicated access/transport**
General Communication	2% of 2000 revenue from dedicated access/transport*
Global NAPs	20% of 2000 revenue from dedicated access/transport*
Goldfield Telephone Company	10% of 1999 revenue from dedicated access/transport**
GST Telecom	15% of 1999 revenue from dedicated access/transport* “[GST] designs its networks with a ring architecture with connectivity to the ILEC’s central offices, POPs of long distance carriers and large concentrations of telecommunications intensive end-users.” ⁷ In 4Q98 “local private line and special access services grew 58%.” ⁸

Appendix A CLECs That Provide Special Access	
Hyperion	65% of 1999 revenue from dedicated access/transport** “Hyperion offers dedicated access services on a wholesale basis to interchange or long distance carriers (‘IXCs’) national service agreements with AT&T and MCI WorldCom to be their preferred supplier.” ⁹
Indigital Telecom	Projected 30% of 2000 revenue from dedicated access/transport*
InfoTel Communications	2% of 1999 revenue from dedicated access/transport**
Integra Communications	10% of 1999 revenue from dedicated access/transport**
Intermedia	“Intermedia offers . . . Special Access Services. Provides a direct, dedicated connection between a business customer and a long-distance carrier.” ¹⁰
ICG Communications	19% of 1999 revenue from dedicated access/transport* “The Company’s networks are constructed to access long distance carriers.” ¹¹
ITC DeltaCom	Dedicated Long Distance Services**
KMC	22% of 2000 revenue from dedicated access/transport* “[A]nnounced it has inked a five-year deal to provide MCI WorldCom with dedicated local-access services in 18 markets.” ¹²
Knology	“The Company offers special access services, including long distance access services, to small- and medium-sized businesses and other customers in certain of the Company’s markets by carrying traffic to ITC DeltaCom’s POP.” ¹³
Level 3	50% of 1999 revenue from dedicated access/transport* “The Company is currently offering its local special access and private line services with available transmission speeds from T1 to OC3 and OC48 and its long distance services will be offered at speeds from T1 to OC3 and OC48. The Company is initially marketing its special access and private line services to ISPs, resellers and medium to large corporate customers.” ¹⁴
Local Fiber	40% of 1999 revenue from dedicated access/transport**
Logix	17% of 1999 revenue from dedicated access/transport* “The Company . . . provides special access services connecting a customer to an IXC for the purpose of delivering long distance calls to the IXC.” ¹⁵
Log On America Inc.	40% of 2000 revenue from dedicated access/transport*
Manhattan Telecomms. Corp.	15% of 1999 revenue from dedicated access/transport**
McLeod	“McLeod has signed an agreement with AT&T to provide dedicated access service within 30 Midwestern cities.” ¹⁶ “We regard the agreement between McLeod and AT&T as a win/win for the companies...” ¹⁷ 9% of 1999 revenue from dedicated access/transport*
MCI WorldCom	25% of 1999 revenue from dedicated access/transport* “CAPs such as WorldCom have constructed fiber-optic rings in a number of markets, providing links to business customers. They offer special access services and interoffice transport services to IXCs, in the process cutting into the RBOC access fee market.” ¹⁸ “Brooks recently announced an expansion of an existing dedicated access service agreement with AT&T covering 27 cities, up from 21 cities previously.” ¹⁹
Metromedia Fiber Network	100% of 1999 revenue from dedicated access/transport*
MetroNet Communications	5% of 1999 revenue from dedicated access/transport**
MGC Communications	5% of 1999 revenue from dedicated access/transport**
MH Lightnet	80% of 1999 revenue from dedicated access/transport**
Millenium Optical Network	76% of 2000 revenue from dedicated access/transport*
Net2000 Communications	4% of 1999 revenue from dedicated access/transport**
Network Plus	Offers T-1, T-3 Dedicated Access*
NEXTLINK	7% of 1999 revenue from dedicated access/transport* “[Company] design[s] each network to connect the maximal number of businesses, long distance carriers’ points of presence and ILEC principal central offices in the area to be served.” ²⁰

Appendix A CLECs That Provide Special Access	
NEON	100% of 1999 revenue from dedicated access/transport**
North American Telecoms. Inc	3% of 1999 revenue from dedicated access/transport*
Novus Telecom	Projected 5% of 2000 revenue from dedicated access/transport*
NTS Communications	50% of 1999 revenue from dedicated access/transport*
Onvoy	10% of 1999 revenue from dedicated access/transport*
Orlando Telephone Company	15% of 1999 revenue from dedicated access/transport**
Ovation	15% of 1999 revenue from dedicated access/transport** "Ovation Communications offers a wide range of voice and data services, including . . . private line/special access services." ²¹
Pac West Telecomm	Offers dedicated access**
Pointe Communications	10% of 1999 revenue from dedicated access/transport* "With the implementation of CLEC operations in each target market, the Company will provide residential and commercial accounts with a full range of local exchange services, including: . . . (ii) interstate dedicated access service (i.e., connecting a customer to a long distance carrier's facilities)." ²²
R&B Network	10% of 1999 revenue from dedicated access/transport**
Rocky Mountain	"Rocky Mountain Broadband will immediately begin providing local exchange services in Colorado including private line, switched and dedicated access service, intraLATA toll, and advanced features." ²³
RNK Telecom	3% of 1999 revenue from dedicated access/transport**
TDS METROCOM	5% of 1999 revenue from dedicated access/transport**
Telergy	65% of 1999 revenue from dedicated access/transport*
Teligent	16% of 1999 revenue from dedicated access/transport**
Time Warner	60% of 1999 revenue from dedicated access/transport** "[Company] provides dedicated transport between local exchange carrier [] central offices and customer designated POPs of an IXC. . . . [Company has lines] linking the Points of Presence of one IXC or the POPs of different IXCs in a market, allowing the POPs to exchange transmissions for transport." ²⁴
US LEC	7% of 1999 revenue from dedicated access/transport*
US MidTel	10% of 1999 revenue from dedicated access/transport**
U.S. Online Communications	10% of 1999 revenue from dedicated access/transport**
USV Telemanagement	"As we realize an increasing volume of dedicated access services such as Integrated T-1 and DSL we will see continuing improvement in gross profit." ²⁵
US Unwired	10% of 1999 revenue from dedicated access/transport**
US Xchange	15% of 1999 revenue from dedicated access/transport* "We offer private line, dedicated access services to customers who desire high capacity transmission connections to long distance carrier points of presence and to interconnect their own internal networks. These customers are typically larger businesses and governmental and other institutional end users." ²⁶
Waller Creek Communications	12% of 1999 revenue from dedicated access/transport**
WinStar	15% of 1999 revenue from dedicated access/transport**

Appendix A

CLECs That Provide Special Access

Sources: *CLEC Report 2000 (est.). **1999 CLEC Report (est.). ¹Hambrecht & Quist Inc., Investext Rpt. No. 2575854, Advanced Radio Telecommunications, Inc. – Company Report at *8 (Aug. 21, 1997). ²K.M. Leon, et al., ABN AMRO Chicago Corp., Investext Rpt. No. 1916888, Teleport Communications Group, Inc. – Company Report at *3 (May 6, 1997). ³BroadSpan Communications Selects Intertech to Support Its Entry into the CLEC Marketplace, Business Wire (Aug. 25, 1998). ⁴Coyote Network Systems Showcases Carrier-Class Solutions, PR Newswire (June 8, 1998). ⁵ABN AMRO Chicago Corp., Investext Rpt. No. 1909008, ACSI, Inc. – Company Report at *1 (May 22, 1997). ⁶FirstWorld Communications Inc., 1998 10-K (SEC filed Dec. 22, 1998). ⁷GST, 1998 10-K at 2 (SEC filed Mar. 12, 1999). ⁸Bear, Stearns & Co., Investext Rpt. No. 2748251, Global Telecommunications: Global Competitive Telecom Weekly – Industry Report at *6 (Mar. 8, 1999). ⁹Adelphia Communications Corp., 1998 10-K (SEC filed May 25, 1999). ¹⁰Ladenburg, Thalmann & Co., Investext Rpt. No. 2887115, Intermedia Communications: Initiating Coverage – Company Report at *5 (June 30, 1999). ¹¹ICG, 1998 10-K at 10 (SEC filed Mar. 30, 1999). ¹²CLEC.com, <http://www.clec.com/latest/ClecNewSearch.cfm> (search by keyword: "KMC"). ¹³Knology Holdings, Inc., 1998 10-K (SEC filed Mar. 31, 1999). ¹⁴Level 3 Communications, Inc., 1998 10-K (SEC filed Apr. 12, 1999). ¹⁵Logix Communications Enterprises, Inc., 1998 10-K (SEC filed Mar. 31, 1999). ¹⁶ABN AMRO Chicago Corp., Investext Rpt. No. 2617676, CLEC Fourth-Quarter And 1998 M&A Outlook – Industry Report at *21 (Dec. 30, 1997). ¹⁷Morgan Stanley, Dean Witter, Investext Rpt. No. 2610838, McLeodUSA – Company Report at *4 (Nov. 10, 1997). ¹⁸Multimedia Telecommunications Association, Investext Rpt. No. 7044817, Telecom-Market Review & Forecast '98 – Network Svcs Mkt – #11283 – Industry Report at *19 (Jan. 1, 1998). ¹⁹Merrill Lynch Capital Markets, Investext Rpt. No. 1869488, Telecom Services Quarterly Focus: Global – Industry Report at *38 (Mar. 11, 1997). ²⁰NEXTLINK, 1998 10-K at 11 (SEC filed Mar. 29, 1999). ²¹Ovation Communications Selects EdgeLink100, Telco Systems' Leading DS3 Multiplexer, Business Wire (Mar. 22, 1999). ²²Pointe Communications Corp., 1998 10-K (SEC filed Apr. 15, 1999). ²³Internet Telephony: Rocky Mountain Internet Becomes Local Phone Service Provider, EDGE (May 11, 1998). ²⁴Time Warner Telecom, LLC, 1998 10-K at 6 (SEC filed Mar. 31, 1999). ²⁵USV Telemanagement Inc. Announces Profit for Quarter Ending September 30, 1999, Business Wire (Oct. 27, 1999). ²⁶US Xchange, LLC, 1998 10-K (SEC filed Mar. 31, 1999).

Appendix B Additional Sources	
Figure 1	<p><i>CLEC Revenue</i>: Connecticut Research, <i>Local Telecommunications Competition</i> (6th ed. 1994, 7th ed. 1995); New Paradigm Resources Group, Inc. & Connecticut Research, <i>Annual Report on Local Telecommunications Competition</i> (8th ed. 1996, 9th ed. 1998); New Paradigm Resources Group, Inc., <i>The 1999 CLEC Report</i> (10th ed. 1999); New Paradigm Resources Group, Inc., <i>CLEC Report 2000</i> (11th ed. 2000).</p> <p><i>RBOC/GTE Revenue</i>: FCC, <i>Statistics of Communications Common Carriers</i> at Table 2.9 (1993/1994 ed., 1994/1995 ed., 1995/1996 ed., 1996/1997 ed., 1997 ed., 1998 ed.) (total ILEC interstate special access and local private line revenue for 1993-1997; 1997-1998 revenue growth rate to estimate 1999 revenue; 1998 RBOC/GTE percentage of total ILEC revenue); J. Lande, Industry Analysis Division, FCC, <i>Telecommunications Industry Revenue: 1998</i> at Tables 5 & 6 (Sept. 1999) (total ILEC revenue for 1998; 1998 percentage of interstate to total revenue to estimate total revenue for 1993-1997).</p>
Table 1	<p>^a <i>Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers</i>, Order, 5 FCC Rcd 7507, ¶ 210 (1990).</p> <p>^b <i>Expanded Interconnection with Local Telephone Company Facilities</i>, Notice of Proposed Rulemaking and Notice of Inquiry, 6 FCC Rcd 3259, ¶ 2 (1991).</p> <p>^c Richard M. Firestone, Chief, Common Carrier Bureau, FCC, "Telecommunications Policy and Regulation," remarks before the Ninth Annual FCBA/PLI Conference (Dec. 2, 1991).</p> <p>^d <i>Expanded Interconnection with Local Telephone Company Facilities, Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board</i>, Second Notice of Proposed Rulemaking, 7 FCC Rcd 7740, ¶ 7 (1992).</p> <p>^e <i>Transport Rate Structure and Pricing Petition for Waiver of the Transport Rules filed by GTE Service Corporation</i>, Report and Order and Further Notice of Proposed Rulemaking, 7 FCC Rcd 7006, ¶ 2 (1992).</p> <p>^f <i>Expanded Interconnection with Local Telephone Company Facilities, Amendment of the Part 69 Allocation of General Support Facility Costs</i>, Report And Order And Notice Of Proposed Rulemaking, 7 FCC Rcd 7369, ¶ 4 (1992).</p> <p>^g <i>Price Cap Performance Review for Local Exchange Carriers</i>, First Report and Order, 10 FCC Rcd 8961, ¶ 25 (1995).</p> <p>^h FCC News Release, <i>Common Carrier Competition</i>, 1995 FCC LEXIS 3544 (rel. May 31, 1995).</p> <p>ⁱ <i>Access Charge Reform</i>, Notice of Proposed Rulemaking, Third Report and Order, and Notice of Inquiry, 11 FCC Rcd 21,354, ¶ 278 (1996).</p>
Table 2	<p>^a Kessler Marketing Intelligence, <i>Alternative Local Carriers with Fiberoptic Metropolitan Area Networks</i> at 24 (Aug. 1989).</p> <p>^b K.M. Leon, Bear, Stearns & Co., Inc., Industry Report at *2 (Oct. 29, 1991).</p> <p>^c Brooks Fiber Properties, Inc., <i>1996 Annual Report</i> at 5-6.</p> <p>^d Intermedia Communications Inc., <i>1996 Annual Report</i> at 19.</p> <p>^e ACSI, <i>1996 Annual Report</i>.</p> <p>^f AT&T News Release, <i>AT&T, Five Companies Sign Alternative Access Agreements</i> (Apr. 11, 1996).</p> <p>^g AT&T News Release, <i>Brooks Fiber Expanded Agreement with AT&T Covers Additional Cities</i> (Feb. 20, 1997).</p> <p>^h F.J. Governali, et al., Credit Suisse First Boston Corporation, Investext Rpt. No. 2563177, Teleport Communications Group, Inc. – Company Report at *6 (July 7, 1997).</p> <p>ⁱ A.G. Edwards & Sons, Inc., Investext Rpt. No. 2693404, Competitive Local Exchange Carriers – Industry Report at *28 (June 18, 1998).</p> <p>^j D.P. Reingold, Merrill Lynch Capital Markets, Investext Report No. 2728065, AT&T – Company Report at *8 (Jan. 12, 1999).</p> <p>^k E. Strumingher, PaineWebber, Inc., Investext Report No. 2908948, MCI WorldCom – Company Report at *3 (July 30, 1999).</p> <p>^l Comments of Sprint Corporation, Attachment E: Declaration of Roberk Runke ¶ 8, <i>Implementation of the Local Competition Provisions in the Telecommunications Act of 1996</i>, CC Docket No. 96-98 (FCC filed May 26, 1999).</p> <p>^m Comments of Sprint Corporation at 34, <i>Implementation of the Local Competition Provisions in the Telecommunications Act of 1996</i>, CC Docket No. 96-98 (FCC filed May 26, 1999).</p> <p>ⁿ Comments of MCI WorldCom, Inc. at 64, <i>Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 and Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers</i>, CC Docket Nos. 96-98, 95-185 (FCC filed May 26, 1999).</p> <p>^o E. Strumingher, PaineWebber, Inc., Investext Report No. 2930537, Telecom Services: Industry Update – Industry Report at *5 (Aug. 19, 1999).</p> <p>^p D. Zito, Legg Mason Wood Walker, Inc., Investext Report No. 2956966, MCI WorldCom – Company Report at *2 (Oct. 6, 1999).</p>