Exhibit No:
Issues: Switched Access, Special Access, SS7 and LIDB
Witness: Sandra Douglas
Type of Exhibit: Direct Testimony
Sponsoring Party: Southwestern Bell Telephone Company
Case No: TO-2001-467

SOUTHWESTERN BELL TELEPHONE COMPANY

CASE NO. TO-2001-467

DIRECT TESTIMONY

OF

SANDRA DOUGLAS

Dallas, Texas
June 28, 2001

NP

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Investigation of the State of Competition in the Exchanges of Southwestern Bell Telephone Company.	)	Case No. TO-2001-467

AFFIDAVIT OF SANDRA M. DOUGLAS

STATE OF TEXAS)
) SS
CITY OF DALLAS)

I, Sandra M. Douglas, of lawful age, being duly sworn, depose and state:

1. My name is Sandra M. Douglas. I am presently Area Manager - State Access for Southwestern Bell Telephone Company.
2. Attached hereto and made a part hereof for all purposes is my direct testimony.
3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge and belief.

Sandra M. Douglas

Subscribed and sworn to before this 12th day of June, 2001.

K Diane Cooper
Notary Public

My Commission Expires: 8-10-03

K. DIANE COOPER
MY COMMISSION EXPIRES
August 10, 2003

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CASE NO. TO-2001-467
SOUTHWESTERN BELL TELEPHONE COMPANY
DIRECT TESTIMONY OF SANDRA DOUGLAS

INTRODUCTION

Q. What is your name and business address?

A. My name is Sandra Douglas. My business address is 311 S. Akard, Dallas, Texas.

Q. By whom are you employed and what is your current position?

A. I am employed by Southwestern Bell Telephone Company ("SWBT"). My current title is Area Manager – State Access Issues and I am responsible for monitoring state access issues for Arkansas, Connecticut, Illinois, Indiana, Kansas, Michigan, Missouri, Nevada, Ohio, Oklahoma, Texas and Wisconsin.

Q. Have you prepared a schedule that provides information regarding your employment and educational background?

A. Yes. Both my employment history and educational background are provided in Schedule 1.

Q. Have you previously testified before this Commission?

A. No. However, I have testified before the Connecticut Department of Public Utility Control in a docket concerning The Southern New England Telephone Company's Switched Access charges.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to discuss the competitive landscape surrounding SWBT's Special Access, Switched Access, Common Channel Signaling/Signaling System 7 ("SS7") and Line Information Database ("LIDB") services filed in SWBT's Tariff PSC Mo – No 36. Moreover, I will show that there are several forms of "non-traditional" access competition that are outside the jurisdiction of the Missouri Public Service Commission ("Commission"), but should nonetheless be considered real forms of competition. My testimony will demonstrate that the Commission should elect to move SWBT toward regulatory parity with SWBT's competitors by confirming that Special Access, Switched Access, SS7 and LIDB services face effective competition.

Q. What products and services will you be discussing in your testimony?

A. I will be addressing SWBT's Special Access, Switched Access, SS7 and LIDB services.

Q. Please briefly describe Special Access service.

A. Special Access service includes a number of separate services sharing common characteristics. The major characteristic of Special Access is it is a dedicated non-switched service used to connect one or more end user

customer premises with an interexchange carrier's ("IXC's") location, which is referred to as a point of presence ("POP"). Special Access services connecting one customer location to an IXC are referred to as point to point configurations, whereas Special Access services connecting multiple end user locations with an IXC via a hub are referred to as a multi-point configuration. Special Access services are used to carry voice and data applications and, at higher speeds, video.

SWBT offers eight categories of Special Access services in Tariff PSC Mo – No 36. These are metallic, telegraph grade, voice grade, wideband analog, wideband data, MegaLink Data (DS1), High Capacity (DS3) and DovLink.

A more detailed description of Special Access service is provided in Schedule 2.

Q. Please briefly describe Switched Access service.

A. Switched Access service enables IXCs to provide long distance service to end users by connecting to SWBT's network. There are three major components in Switched Access service. They are common line, local switching and transport.

Common line refers to the line between an end user's home or business and SWBT's end office serving that customer.

Local switching refers to the end office functions necessary to originate or terminate a long distance call.

Transport refers to the facilities required to carry the call from SWBT's end office to the IXC's serving wire center. Transport may be tandem routed or directed routed. Tandem routed transport occurs when an IXC has chosen to route traffic from the IXC's serving wire center to a SWBT end office via an access tandem instead of directly routing to SWBT's end office. Direct routed transport occurs when an IXC has chosen to route traffic from the IXC's serving wire center directly to SWBT's end office.

An IXC can choose from three types of Switched Access service. These are referred to as:

- Feature Group A ("FGA");
- Feature Group B ("FGB"); and
- Feature Group D ("FGD").

A more thorough description of Switched Access service is provided in Schedule 3.

Q. Please briefly describe SS7 service.

A. SS7 provides a dedicated two-way signaling path between a customer and SWBT's Signal Transfer Point ("STP") and provides access to SWBT's SS7 network. Where available, SS7 signaling is used with Switched Access FGD service to carry the signals associated with a call on a transmission path that is separate from the path of the call. In addition, SS7 is utilized to access SWBT's LIDB and Switched Access 800 Number Portability Access Service ("NPAS"). There are four rates associated with SS7 service: STP Access Connection, STP Access Link, STP Port Termination and the Customer Signaling Point Code[1].

Q. Please briefly describe LIDB service.

A. LIDB provides the customer the ability to query billing validation data in SWBT's database in support of alternate billing services, such as calling card, collect and third number billing. Alternate billing services allow telecommunications companies to bill calls to an account that might not be associated with the originating line. There are two charges associated with LIDB. One charge is designed to recover the costs of the query and the other is designed to recover the costs of transporting the query[2].

[1] P.S.C. Mo. No. 36, section 20.
[2] P.S.C. Mo. No. 36, section 21.

GENERAL OVERVIEW OF THE COMPETITIVE MARKET

Q. Has the Commission previously found any of SWBT's Special Access services to be competitive?

A. Yes. Pursuant to Section 392.370.1 RSMo, in Case No. TO-93-116 the Commission determined SWBT's Megalink Data and High Capacity services were transitionally competitive. As explained more fully in Mr. Hughes' testimony, SWBT agreed to extend the transitionally competitive designation to January 10, 1999. Under Section 392.370.1 RSMo these Special Access services were automatically classified as competitive on January 10, 1999, the end date of the transitionally competitive classification. In this proceeding, SWBT requests that the Commission confirm that all Special Access services have a competitive classification.

In addition, Section 392.200.8 RSMo allows SWBT to utilize customer specific pricing ("CSP") on Special Access services, which further indicates the state legislature recognized Special Access service is sufficiently competitive to allow SWBT pricing flexibility.

Q. Please describe the types of competition that exist for SWBT's Switched Access and Special Access services.

A. As described in the direct testimony of Mr. DeHahn, competition for non-switched dedicated services began developing in the 1980s. Over the past almost twenty years, this competition has become well established.

Based on information available today, it is clear there continues to be numerous types of competition for Switched Access and Special Access services, many of which completely bypass the portions of SWBT's traditional network used to provide access. These are:

- Facilities based competitive local exchange carriers ("CLECs") which own or lease their own transport facilities;
- Switched based CLECs which own their own end office equivalent switch;
- Interconnection trunks which enable the CLEC to interconnect with an IXC to provided Switched Access and/or Special Access services;
- Unbundled Network Elements ("UNEs") which are used in conjunction with the CLECs' equipment to enable the offering of service;
- UNE-Platform ("UNE-P"), which is a subset of UNE, and allows CLECs to charge IXCs Switched Access to originate and terminate long distance calls to the CLECs' end users without providing any equipment to provide end to end service;
- Alternative transport providers which sell the equivalent of Switched Access transport and Special Access directly to CLECs, IXCs, etc.;
- IXCs that provide their own Special Access connections to end user customers;
- Providers of collocation hotels which connect IXCs, CLECs and large end users via a fiber ring either owned by the provider or leased from a fiber provider;

- Private networks owned by network providers or large businesses themselves that provide connectivity to IXC POPs;
- Wireless provider plans which offer unlimited regional and nationwide long distance calling; and
- the Internet which allows end users the ability to communicate via email, Voice over Internet calling or an Internet based Virtual Private Network ("VPN"), all of which are exempt from access charges.

Lastly, the pricing structure in place for SWBT's Switched Access local transport rates provides an incentive for customers to look to alternative transport providers for the transport piece of Switched Access service (i.e., the transport of calls between the end user's end office and the IXC's serving wire center). Unlike SWBT, competitors can provide transport on a flat-rated basis[3] thereby allowing customers to reduce their average transport minute of use ("MOU") cost by directing the maximum amount of traffic over a single trunk.[4]

Q. Are all of the competitive alternatives to SWBT's access services subject to oversight by this Commission?

[3] Report and Order, In the Matter of Southwestern Bell Telephone Company's tariff sheets designed to restructure local transport rates, Case No. TR-95-342, Effective March 16, 1996, in which the Commission rejected SWBT's filing because the Interconnection Charge was not cost supported.

[4] MO PSC's CLEC Applications, Tariffs and Interconnection Agreements, section 3.40, "the Commission has approved tariffs of competitive local exchange carriers who do utilize local transport restructuring".

A. No. There are many forms of access competition that are not regulated by the Commission. One non-traditional form, which is outside of the Commission's purview, is large, end-user businesses that have established their own private networks. In developing their own networks, large end users can connect directly to an IXC and bypass SWBT's network. In doing so, SWBT does not charge access charges, switched or special, to the IXC.

Wireless providers, Internet service providers and suppliers of collocation hotels are not required to file tariffs with this Commission and may price their service in any manner the market dictates.

Q. Please describe the CLEC facilities-based competitive market for Switched Access usage service.

A. As shown in Mr. Anvin's direct testimony, there are approximately 31 facilities-based CLECs which have service areas within SWBT's Missouri service area. Facilities-based CLECs may bypass part or all of SWBT's Switched Access service to originate and terminate long distance calls using facilities it owns or has leased from another carrier. Another type of facilities-based competition involves purchasing SWBT's UNE-P services. UNE-P enables a CLEC to provide local service to end users customers and includes the right to receive access on interexchange calls to or from the CLEC's customers. The CLEC in turn is allowed to charge the IXC its

equivalent of SWBT's Switched Access charges or may choose another rate structure.

The Association for Local Telecommunications Services ("ALTS"), which is an industry association whose mission is to promote facilities-based telecommunications competition, issued its annual report, *The State of Local Competition 2001*, in February of this year[5]. ALTS reported there were "almost 1,000 voice switches[6] in operation as of 3Q00"[7]. According to the National Exchange Carrier Association ("NECA") Tariff FCC No. 4 which was effective May 1, 2001 several competitors within Missouri have been assigned Common Language Location Identifier ("CLLI") codes and indicate they are capable of providing FGA, FGB and/or FGD (1+ dialing). Therefore, in addition to providing alternatives for local service, CLECs are able to provide and charge for the equivalent of SWBT's local switching charge. Schedule 5 is a list of CLECs from NECA's Tariff FCC No. 4 that have a CLLI code and provide one or more of the Switched Access feature groups. Schedule 6, which is being filed as highly confidential, lists the CLECs that have purchased UNE-P services from SWBT and the exchange in which each CLEC is providing facilities based UNE-P service.

Q. Please describe the CLEC facilities-based competitive market for

[5] See Schedule 4.
[6] Voice switches also have the ability to do data.
[7] See Schedule 4, page 24.

Switched Access transport and Special Access services.

A. As previously stated, there are approximately 31 facilities-based CLECs which have service areas within SWBT's service area in Missouri. Facilities-based CLECs may bypass part or all of SWBT's Switched Access transport service to originate and terminate long distance calls, in addition to providing Special Access service.

If you compare ALTS's list of network members to the Commission's list of CLECs operating in Missouri several of the same names appear on both lists. For example, 2nd Century Communications, Inc., Birch Telecom of Missouri, Inc., Gabriel Communications of Missouri, Inc. (NuVox), KMC Telecom III, Inc., and McLeod USA Telecommunications Services are all listed as facilities based providers that offer service throughout Missouri.

In addition to providing alternatives for local service, CLECs are able to provide and charge for Switched Access transport and Special Access. These CLECs also have the option of interconnecting with an IXC or an alternative access provider to completely bypass SWBT's network and can act as a reseller for other CLECs. For example, AT&T offers physical network interconnection arrangements in section 10 of its Tariff PSC Mo No 14.

Another type of facilities based competition is based on collocation.

Collocation refers to a carrier placing equipment in SWBT's EOs that enables the origination and termination and/or transport of switched end users' local and long distance calls, as well as dedicated non-switched services. Collocated CLECs are free to choose which services they wish to offer. In fact, one of the fastest growing areas is broadband, which enables the provisioning of end-to-end Internet service. ALTS reported that as of 3Q00 data local exchange carriers ("DLECs")...led the way in central office collocations"[8] in 2000.

Q. Please describe other forms of facilities based competition which compete with Switched Access transport and Special Access services.

A. There are several forms of alternative transport. These are:

- metropolitan fiber rings;
- collocation hotels;
- collocation and interconnection; and
- satellite.

Q. Please describe the Switched Access transport and Special Access competition from metropolitan fiber rings.

A. There are several operational or planned local fiber network providers in

[8] ALTS Report, *The State of Local Competition 2001*, page 35.

Missouri. Table 6 of the Competition for Special Access Service, High Capacity Loop and Interoffice Transport (Special Access Report)[9] shows Metromedia Fiber Networks, American Fiber Systems and Telseon are wholesale fiber suppliers in St. Louis; American Fiber Systems is a wholesale fiber supply in Kansas City; and Looking Glass has received approval from the Commission to operate as a public utility in Missouri and to offer facilities that enable the bypass of SWBT's Switched Access transport and Special Access services. Metropolitan fiber rings can be comprised of dark fiber or fiber that is equipped with the electronics necessary to light the fiber. For example, as shown in Schedule 7, American Fiber Systems is an independent provider of dark fiber for carriers and service providers in mid-sized U.S. cities states and will "design, build, lease and maintain high-capacity, high-bandwidth dark fiber-optic networks...completely connected to a city's most important points of communications presence". These communications points of presence include ILECs, CLECs, wireless providers, cable companies, large end users, ISPs and IXC "carrier hotels". These types of networks are in a position to completely bypass SWBT's network.

In addition to selling dark fiber, companies, such as Looking Glass, plan to develop metropolitan rings using their own fiber that will provide transport

[9] United States Telecom Association ("USTA") comments submitted to the FCC on April 5, 2001, In the Matter of Implementation of the Local Compensation Provisions of the Telecommunications Act of 1996, CC Docket No. 96-98.

and collocation to other carriers and large business customers. Looking Glass is able to do this by also providing the optical electronics necessary to light the fiber. In addition to owning its own network, Looking Glass will interconnect with SWBT via collocation and Unbundled Network Elements ("UNEs")[10].

Companies such as Looking Glass enable collocators, IXCs, ISPs, large end users, wireless providers and collocation hotels to interconnect with each other without utilizing SWBT's network.

Q. Please describe the Switched Access transport and Special Access competition from competitors' collocation offerings.

As shown on Schedule 5, several CLECs offer Switched Access transport and Special Access collocation, both physical and virtual, as well as route diversity. These CLECs may have built their own networks or leased a portion of another's network, but in either case, are able to bypass SWBT's Switched Access transport and Special Access services.

Q. Please describe the Switched Access transport and Special Access competition from collocation hotels.

A. Missouri has seen an increase in the number of alternative collocation

[10] Information obtained for Looking Glass Networks, Inc. from website www.lglass.net.

providers, which are also referred to as collocation hotels. Collocation hotels facilitate bypass of SWBT's Switched Access transport and Special Access networks by providing a single location for IXCs, CLECs, wireless providers, ISPs and large end users to interconnect. As of April 5, 2001 Axon Telecom ("Axom"), E-COLO.com and Layerone had operational collocation hotels in the St. Louis area and Axon and E-COLO.com had operational collocation hotels in the Kansas City Area[11]. Schedule 8 and Schedule 9 provide maps downloaded from Axon's website that show the area of coverage in the St. Louis and Kansas City metropolitan areas, respectively.

Q. Please describe the Switched Access transport and Special Access competition from interconnection.

A. Another item contributing to competition in Missouri are interconnection trunks used by facilities-based CLECs to connect their switching facilities to SWBT's EOs or tandem. Interconnection trunks can be used to bypass SWBT's switched and non-switched services.

Q. Please describe the Switched Access transport and Special Access competition from satellite.

A. Satellite technology is used as an alternative transport medium for broadband. For example, it enables delivery of high-speed access to

[11] Schedule 2 of USTA's Special Access Report.

IXCs' points of presence and direct access to large end users, thus bypassing SWBT's network.

Q. To whom are these various alternative transport providers marketing?

A. Although SWBT does not know the details of each competitor's marketing plans, SWBT did find the target audience for selected alternative transport and collocation hotels was end users, IXCs, wireless carriers and other CLECs, all of whom are potential customers for SWBT's Switched Access transport and Special Access services. (See Schedule 10.)

Q. Can you provide examples of these marketing efforts?

A. Schedule 11 provides copies of Looking Glass's solicitation for lists of buildings and property owners; Telseon's promotion that is available until June 30, 2001; an article describing Yipes's marketing efforts and a March 6, 2001 article announcing Telseon's plans to expand service to long-haul carriers. Schedule 11 also contains an article which was carried in the January 11, 2001 St. Louis Post Dispatch that discusses MCI/WorldCom's plan to build a network services facility in St. Louis. The city of Overland approved $80 million in taxable industrial revenue bonds to finance the project.

Q. Please describe how wireless service offerings compete with Switched Access transport and usage.

A. Wireless carriers have begun to offer free and flat rated regional and nationwide long distance calling which provides an incentive to end users to use their wireless phones to complete long distance calls. When cellular phones are used to complete calls that would be interLATA in nature on a landline, SWBT's Switched Access minutes of use are reduced. As more and more cellular plans offer nationwide coverage, SWBT's Switched Access minutes of use will continue to be eroded.

Q. Please describe how Voice over IP offerings compete with Switched Access transport and usage.

A. In paragraph 345 of the *Access Reform Order*[12] the FCC reaffirmed its decision that Internet Service Providers ("ISPs") should continue to be exempt from access charges. As technology has improved, ISPs are able to transmit voice calls over the Internet, as well as video free from Switched Access charges. In addition, ISPs' end users are able to use e-mail to communicate rather than making a long distance call. For example, I regularly communicate with my family and friends in St. Louis via the Internet rather than call long distance. And e-commerce allows end users to conduct transactions over the Internet rather than calling a

[12] First Report and Order, In the Matter of Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing and End User

business's order center. I regularly use the Internet to make purchases and check account balances rather than calling an 800 number.

Specific examples of Voice over IP offerings, which are provided in Schedule 12, are:

- Net2Phone announced the launch of its broadband voice technology and services designed to bring IP telephony access over cable, DSL and DS1 while bypassing the end user's personal computer entirely on June 6, 2001;
- Dialpad, which is listed as an ISP in Missouri, states it has terminated over 1.6 billion MOUs since its launch in 1999;
- Cisco launched several new IP telephony products in April 2001; and
- This month Intel will release an IP telephony product that allows IP phones to be connected to a PBX.

Q. Please describe the types of competition that exist for SS7 and LIDB.

The competition for SS7 and LIDB is also significant. For example, Illuminet offers SS7 signaling connectivity on a nationwide basis as well as nationwide transport of SS7 messages. TSI Telecommunications Services Inc. offers both SS7 and LIDB on a nationwide basis; and IDN, LLC offers SS7 and LIDB transport, as well as 800 transport. Schedule 13 provides more detailed information on these three competitors.

Common Line Charges (*Access Reform Order*), CC Docket Nos. 96-262, 94-1, 91-213 and 95-

SWITCHED ACCESS USAGE AND TRANSPORT COMPETITION

Q. Are CLEC's Switched Access rates in SWBT's exchanges capped at SWBT's rates?

A. Yes. Section 3.40 of the PSC's CLEC Applications, Tariffs and Interconnection Agreements[13] states the following:

> "Rates for Switched Access services are required to be "cost based". Pursuant to Case No. TO-99-596, intrastate Switched Access rates in Missouri are capped at a rate no higher than the incumbent(s)..."

Q. Are CLEC's required to match SWBT's Switched Access rate structure?

A. No. According to Section 3.40 of the Commission's CLEC Applications, Tariffs and Interconnection Agreements[14], CLECs are not required to mirror ILECs' Switched Access rate structures. Specifically the Commission's rules state:

> ILECs "in Missouri have not restructured local transport and do not use rate elements such as interconnection charges and entrance facilities. However, the Commission has approved tariffs of competitive local exchange carriers who do utilize local transport

72, released May 16, 1997.
[13] See Commission's website – Application for certificate of service authority for CLEC service.
[14] Id.

restructuring. In such instances, the Staff will make calculations to ensure that the competitor's restructured rates are no greater in the aggregate than an incumbent's rates utilizing the equal charge method of providing Switched Access. In such instances the Staff will question any competitive rate element which appears to be residually priced."

Schedule 14 compares SWBT's Switched Access rates and structure to several CLEC tariffs.

CONCLUSION

Q. Please summarize your testimony.

A. SWBT's Switched Access, Special Access, SS7 and LIDB services face numerous forms of competition from other companies which provide services that are substitutable for or functionally equivalent to SWBT's Special Access, Switched Access, SS7 and LIDB services. Therefore, these SWBT services should be designated as competitive and removed from Missouri's price cap regulation. The most significant competition is in the metropolitan areas, which have already seen the establishment of alternative transport via metropolitan fiber rings, collocation hotels, numerous competitive facilities based providers, and service offerings via viable network alternatives.

Furthermore, under the rules that existed prior to price cap regulation in Missouri, some of SWBT's Special Access services became competitive in 1999. In addition, Missouri statute permits CSP pricing for Special Access services. Special Access service is clearly competitive and when SWBT offers such service, it should enjoy the same freedoms as those experienced by competitors.

Q. Does this conclude your testimony?

A. Yes it does.

SUMMARY OF EMPLOYMENT AND EDUCATIONAL BACKGROUND

Q. PLEASE OUTLINE YOUR WORK EXPERIENCE AT SWBT.

A. In 1979 I accepted the position Staff Assistant-Cost Studies and in 1981 the position of Staff Manager-Cost Studies where I assisted in the preparation of cost studies for special assembly requests and vintage PBX systems, respectively.

In 1983 I was appointed Manager-Rates and was responsible for developing SWBT's initial local transport rates filed with the Federal Communications Commission (FCC).

In 1985 I was appointed Manager-Separations where I was responsible for traffic studies for the state of Missouri.

In 1988 I was appointed Manager-Rates and was responsible for developing the local switching rates for SWBT's annual rate of return filing with the FCC. Subsequent to the introduction of price cap regulation I assumed responsibility for development of cost and rate support for new switched access services, including LIDB, SS7, 800 Database and Open Network Architecture (ONA).

In 1995 I was appointed to the position of Area Manager-Product Management where I was responsible for FGA services.

In 1996 I was employed by GTE Long Distance (GTE LD) where I was responsible for developing and conducting variance analysis on GTE LD's cost budget regarding access services. In addition, I supported contract negotiations with potential vendors supplying underlying service.

In 1997 I was again employed by SWBT as Area Manager-Rates responsible for the federal price cap filings for SWBT, Pacific Bell Telephone Company, Nevada Bell Telephone Company and for federal switched access tariff filings. In September 1999 responsibility for the federal switched access tariffs were moved to another position and I accepted the additional responsibility of federal price cap filings for The Southern New England Telephone Company and the Ameritech Operating Companies.

In October 2000 I was appointed to my current position, Area Manager-State Regulatory.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. I received a Bachelor of Science Degree in Accounting from Maryville University, St. Louis, MO in December 1994. I completed the Uniform Certified Public Accounting (CPA) examination in May 1995. I am currently a member of the Missouri Society of Certified Public

Accountants. Additionally, I have attended numerous training courses and seminars since my employment at Southwestern Bell Telephone Company (SWBT) in the areas of accounting, cost development, computer software, separations and federal regulations.

SPECIAL ACCESS SERVICE

Special access service is a dedicated service, which can be used to connect two end user locations (point to point) or to connect multiple end user locations (Multipoint). In access one point in a point to point connection or a Multipoint location will be and interexchange carrier's ("IXC's") location, which is referred to as a point of presence ("POP").

The point to point or Multipoint connection is used to carry voice and data applications. As the voice or data traverse the network, SWBT does not interact with the voice or data. In other words, a customer's special access service is similar to a pipe and voice or data travels through the pipe with no intervention by SWBT.

At the end user's location in a point to point circuit or at multiple locations in a Multipoint arrangement, the customer provided equipment is located for the purpose of shipping the information or receiving the information.

Special access connections can be either analog or digital. Analog connections are differentiated by spectrum and bandwidth. Digital connections are differentiated by bit rates. The basic services are called:

- Metallic
- Telegraph
- Voice Grade

- Wideband Analog
- Wideband Data
- MegaLink Data
- High Capacity
- DovLink

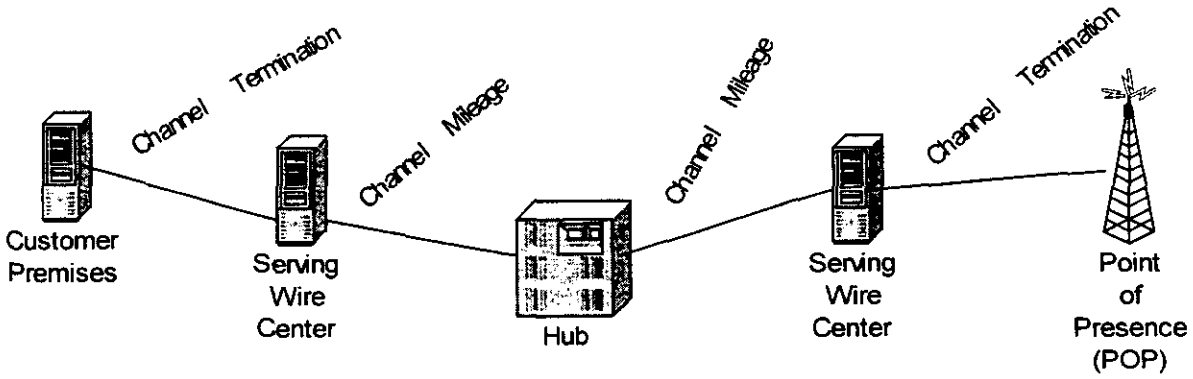
Each service consists of a basic channel, channel interfaces and optional features and functions.

Two-Point Service (Point to Point)

A two-point service connects one customer premises, either directly or through a Hub where multiplexing, Network Reconfiguration Service or Transport Resource Management Service functions are performed.

The following diagram depicts a basic point to point special access circuit.

Point to Point Special Access Circuit

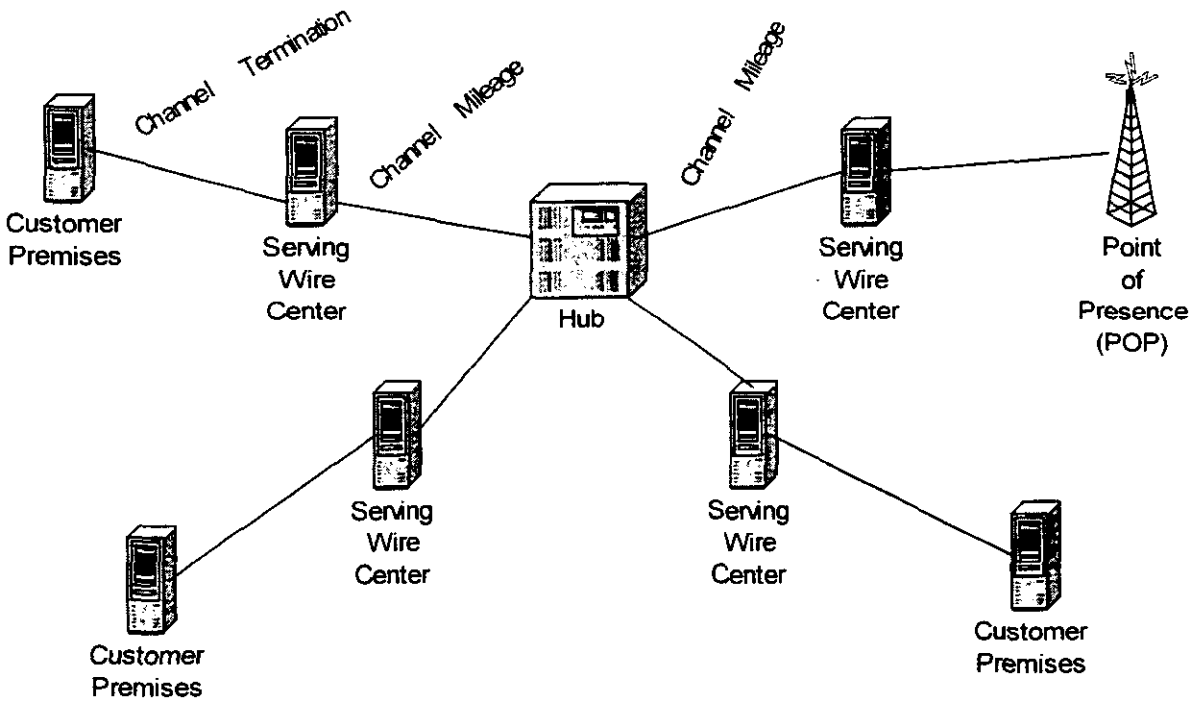


Multipoint Service

Multipoint service connects two or more customer premises with an IXC through a hub.

A simple diagram of a Multipoint service follows:

Multipoint Special Access Service



Metallic

A metallic channel is an analog channel, which is capable of transmitting data at rates up to 30 baud. Metallic channels are provided on a point to point basis or on a mutli point basis between an end user's premises and a hub. Metallic service has been used by customers for alarm, metering, supervisory control and signaling communications.

Voice grade service is not recommended if speed, accuracy or reliability of data are a primary concern. Voice grade service is not an option if a customer requires transmission speeds greater than 19.2 Kilobits per second[3].

Wideband Analog Service

Wideband analog service provides an analog channel with a bandwidth measured in kilohertz for the transmission of a wideband signal. The actual bandwidth is a function of the channel interface ordered by the customer[4].

Wideband Data Service

Wideband data service provide an analog channel for transmission of synchronous serial data at speeds up to 230.4 kilobits per second or asynchronous serial data at speeds up to 230.4 kilobits per second. The actual bit rate is a function of the channel interface selected by the customer. This service does require a specific piece of equipment, a 303 Data Station, to enable connection between the customer's equipment and the channel[5].

MegaLink Data Service (DS1)

MegaLink data channels provide for the duplex four-wire transmission of synchronous serial data up to 64 kilobits per second. The bit rate is a function of the channel interface selected by the customer. MegaLink data channels are

[3] P.S.C. Mo. No. 36, Section 7.2.3.
[4] P.S.C. Mo. No. 36, Section 7.2.5.
[5] P.S.C. Mo. No. 36, Section 7.2.6.

provisioned using SWBT provided timing. This service was classified as transitionally competitive by the Commission effective January 10, 1993[6].

DS1 service, which is also referred to as High Capacity service, is a 24 channel digital connection that can transmit at speeds up to 1.544 Megabits per second. A DS1 connection can be multiplexed down to 24 individual channels for use with Voice Grade Service. DS1 service can be provided on a point to point basis between two locations or between an end user location and a hub. DS1 service is a high performance service that is reliable and accurate. DS1 is used by customers to transmit voice, data and video.

High Capacity Service (DS3)

High capacity service provides for the transmission levels up to 44.736 megabits per second. The actual bit rate and framing format is a function of the channel interface selected by the customer. A high capacity facility can be multiplexed down to 28 DS1 channels or 672 circuits (28 DS1s * 24 channels). High capacity service can be used in a point to point connection or in a multi point connection between a customer premises and a hub and is used to transmit data, voice and video.

High capacity service also enables the provision of more advanced services such as Network Reconfiguration Service[7] or Transport Resource Management

[6] P.S.C. Mo. No. 36, Section 7.2.7.

Service[8]. Network Reconfiguration Service enables customers to reconfigure their dedicated networks by accessing a SWBT database. Transport Resource Management Service provides advanced customer network management capability by enabling customers to manage modify their bandwidth and multiplexing options via a workstation located on the customer premises or by calling SWBT directly.

This service was designated as transitionally competitive by the Commission on January 10, 1993[9].

DovLink Service

DovLink channels are provisioned to provide either synchronous or asynchronous data at speeds of 2.4, 4.8 or 9.6 kilobits per second. DovLink service is provided as a derived channel of a voice grade facility. The customer must provide a data voice multiplexer at its premises.

DovLink is provided where suitable facilities are available[10].

Hubbing and Multiplexing

SWBT has designated certain locations as hubbing locations. Hubbing is necessary for multipoint connections. Hubbing provides a centralized location for

[7] P.S.C. Mo. No. 36, Section 19.1.
[8] P.S.C. Mo. No. 36, Section 19.2.
[9] P.S.C. Mo. No. 36, Section 7.2.8.
[10] P.S.C. Mo. No. 36, Section 7.2.9.

multiplexing or other features. Multiplexing allows a customer to convert a higher speed facility to a lower speed or a lower speed facility to a higher speed facility. For example, a customer may have MegaLink data channels (DS1s) from three different locations to the hub. At the hub location, these DS1s could be multiplexed up to a single high capacity service (DS3) for delivery to the interexchange carrier ("IXC"). Multiplexing also enable conversion of digital signals to voice frequency and visa versa.[11]

Shared Use

Shared use enables a customer to combine special access service and switched access service over the same facility through a common interface. The facility is ordered as special access service, such as high capacity service. The customer may then designated individual channels on the facility to be used for switched access service[12].

Rates and Charges

There are two types of rates applicable to special access service. These are monthly rates and nonrecurring rates. Monthly rates are assessed each month either on a one for one basis or on a per mile basis. Nonrecurring charges are one time charges that generally apply at the time of installation of the channel or the features or functions.

[11] P.S.C. Mo. No. 36, Section 7.3.7.
[12] P.S.C. Mo. No. 36, Section 7.3.8.

SWITCHED ACCESS SERVICE

Switched access refers to the line of services SWBT sells to interexchange carrier ("IXC") customers who wish to access SWBT's public switched network. It enables long distance calls to originate or terminate from an end user's premises.

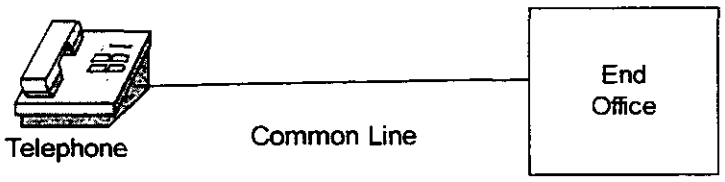
Switched access has four categories of service which are designated by feature group. Feature groups are differentiated by their technical characteristics and figures and how an end user accesses each of these services. The four categories of feature groups are: Feature Group A ("FGA") which is a line side connection; Feature Group B ("FGB") which a trunk side connection accessed via the 950 access code; and Feature Group C ("FGC") and Feature Group D ("FGD") which are both trunk side connections that allow 1+ dialing of long distance calls.

Switched access service has three major components. These are the common line, the end office and transport.

Common Line

The common line refers to the telephone connection between an end user's home or business and SWBT's end office ("EO").

A simple diagram of the common line and its relationship to the end office is depicted as follows:



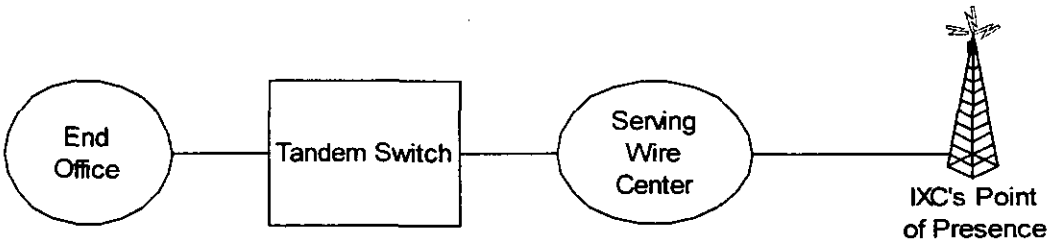
End Office

The end office refers to the functions required to originate or terminate a long distance call from or to an end user's line.

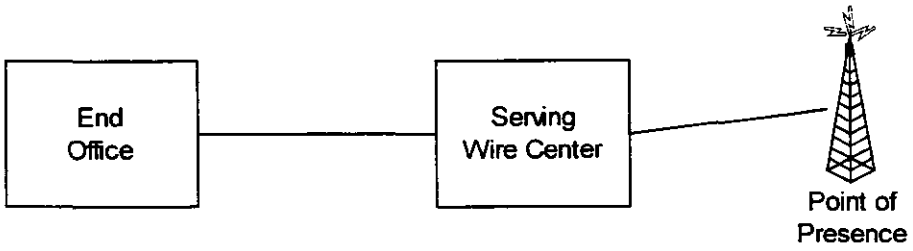
Transport

Transport refers to the network facilities required to route a call from the EO to an interexchange carrier ("IXC"). Transport is the mechanism used to move a call or move a customer's voice and data from point A to point B. Although the rates and charges assessed by SWBT for transport do not recognize the routing options available in SWBT's network, there are two types of transport - tandem routed transport and direct routed transport.

If a customer selects tandem routed transport SWBT will provision a trunk from the IXC's serving wire center to SWBT's tandem and another trunk from SWBT's tandem to the EO. A simple diagram *of tandem routed transport* is depicted as follows:



If a customer selects *direct routed transport*, SWBT provisions a trunk from the IXC's service wire center to SWBT's EO, which is illustrated as follows:



FGA

FGA service is a line side service that is associated with a seven digit telephone numbers[1]. FGA can be used to originate and terminate telephone calls.

The end user reaches an IXC by dialing the seven digit local telephone numbers associated with the FGA line. The IXC must designate which FGA office in the LATA from which SWBT should provision service.

[1] In those instances where ten digit dialing is required, the ten digit FGA number would have to be dialed.

FGB

FGB service is trunk side service which is used to provide Message Telecommunications Service ("MTS")-like service. FGB service is associated with a uniform access code. The access code is 950 and is similar to a NXX. Historically, FGB service was the trunk side service IXCs utilized until FGD service became available in an EO. FGB, which continues to be purchased, may be used to originate and terminate traffic.

FGC

FGC service was the predecessor to FGD service.

FGD

FGD service is a trunk side service which is used to provide MTS service to all IXCs in the same manner. It enables all IXCs to provide 1+ dialing for long distance calls to end users. The majority of switched access usage provided by SWBT is provided via FGD service.

Major Components of Switched Access Service

As stated previously, there are three major components:

- the Common Line;
- the End Office; and
- Transport.

The Federal Communications Commission ("FCC") established this basic structure when AT&T divested itself of the Bell Operating Companies ("BOCs"). This structure was adopted by the Commission. In the early 90s, the FCC did restructure transport into a combination of usage sensitive and flat rated charges. The new structure, referred to as local transport restructure, was never filed in SWBT's intrastate tariff. The continued use of usage sensitive rates for transport instead of the more cost based structure acts as an incentive for carriers to go to SWBT's competitors for transport.

Common Line

As previously stated, the common line, or local loop, is the wire that connects an end user's telephone to the telephone company's network, specifically, the EO. The Commission established the following rate structure for Carrier Common Line ("CCL"):

- CCL Premium Originating
- CCL Premium Terminating

These rates are assessed on a per minute of use ("MOU") basis and the tariff does distinguish between originating and terminating on an interLATA basis and an intraLATA basis.

The End Office

As stated previously, the end office ("EO") is the network point of origination or termination of calls. Every end user is connected to a single EO. EOs are

assigned NPAs (area codes) and NXXs. Each NXX can accommodate 10,000 lines (0000 to 9999). The combination of the NPA, NXX and line code is called a telephone number. For example, the NPA for this office is 214; the NXX is 858 and the line code is 2468, which produces a phone number of 214-858-2468.

Each end user must select a prescribed interexchange carrier (PIC) to allow for 1+ long distance dialing or the end user can choose to forego the convenience of 1+ dialing and not PIC a carrier. If an end user does not PIC a carrier, the end user then must use 10XXX plus the telephone number instead of 1+ the telephone number. In other words, more digits to dial.

Regardless of whether an end user has PICd or not PICd a long distance provider, the EO reacts the same. First, the end user picks up his telephone and begins dialing. As the end user is dialing, the EO is processing the digits dialed and determining where the call must go next in the telephone network.

If the call is to a different line served by the same EO, this is referred to as an intraoffice call, which is local and outside the scope of the intrastate access tariff. The EO recognizes the line being called is in the same location and simply attaches the two lines together.

If the call is to a line served by another EO that is within the local calling scope, the call is local and this is referred to as an interoffice call. The EO that serves

the originating end user recognizes the line being called is within the local calling scope and simply selects an outgoing trunk to the EO that serves the called end user.

If the call is a long distance call, whether it be a toll called served by a competitor or an intrastate, intraLATA call carried by an IXC, the EO checks to see if the originating line is prescribed or PICd. If the line is not PICd, the EO checks to see what the 10XXX code is. Upon determining the appropriate carrier, the EO forwards the call to an outgoing trunking that connects the originating caller's line with a long distance carrier's network.

If the call is incoming or terminating to an end user, the same functions have taken place but in the terminating direction the called end user's EO only needs to determine which line the call must terminate to.

The tasks being performed by the EO's -- translating the dialed number to enable it to be forwarded through the network; determining the line for termination of a call -- are referred to as switching. The call is switched from point to point within the network to enable a completed call. Hence the term switched access.

The Commission established the following rate structure for recovery of the end office function:

- Local Switching LS1 per MOU charge

- Local Switching LS2 per MOU charge

Transport

As stated previously, an IXC can choose either tandem routed or direct routed transport. Although the FCC has significantly restructured transport service, the SWBT's intrastate access tariff continues to reflect a per MOU structure. The per MOU charge is dependent on the mileage between the IXC and the end office. Currently, there are four mileage bands: 0 to1 miles, over 1 to 25 miles, over 25 to 50 miles and over 50 miles. In addition, an installation charge is assessed when an IXC orders new service.

Open Network Architecture ("ONA")

On May 8, 1990 the FCC issued its MO&O on Reconsideration, In the Matter of Filing and Review of Open Network Architecture Plans, CC Docket No. 88-2, Phase I. ONA was designed to unbundled the network. ONA was a new regulatory framework designed to govern BOC participation in the enhanced services marketplace and open up network-based opportunities for competing Enhanced Service Providers (ESPs)[2]. The new regulatory framework that the FCC is referring to is unbundled access. SWBT's intrastate access tariff does reflect the impact of ONA.

[2] See paragraph 2 of the MO&O, In the Matter of Filing and Review of Open Network Architecture Plans, CC Docket No. 88-2, Phase I, released May 8, 1990.

The analogy most often used during the time ONA was being implemented was a McDonald's Big Mac. The Big Mac is lettuce, pickles, onions, secret sauce and two all-beef patties on a sesame seed bun. One orders a Big Mac and McDonald's charges $2.00 (illustrative price). One orders a Big Mac with no onions and McDonald's charges $2.00. In other words, whether one orders the Big Mac that has everything on it or special orders the Big Mac without onions, McDonald's charges $2.00. This is bundled pricing and this is the same way bundled access works.

Using FGD as an example, assume a carrier orders FGD service. Under bundled local switching rates the carrier would expect to be charged LS2 premium rates for the local switching portion of switched access. The carrier is charged the same price as every other customer who orders FGD service, even if the carrier does not want all of the same features and functions as every other customer.

Back to the Big Mac...

Without the two all-beef patties, there would be no sandwich. Without the sesame seed bun, there would be no sandwich. Therefore, they are required ingredients of the sandwich. The FCC referred to these as Basic Serving Arrangements (BSAs). The lettuce, pickles and onions are not required components of a sandwich; therefore, they are Basic Service Elements (BSEs). Switched access is similar. For example, Automatic Number Identification

("ANI") is part of bundled FGD service. If a carrier does not want ANI, a special order must be placed but the carrier is still charged the bundled LS2 rate.

SWBT followed the FCC's logic most closely by actually naming the unbundled basic services as BSAs. For example, the unbundled version of FGA is BSA-and the unbundled version of FGD is BSA-D. Within the intrastate access tariff one will find the following rate elements in addition to bundled LS1 and LS2:

- Unbundled LS1 per MOU and
- Unbundled LS2 per MOU[3].

SWBT also offers BSEs. With the exception of features that were not previously available at the time of the ONA filings, most of the BSEs were unbundled from local switching.

As stated previously, local switching was the only real major rate element that was unbundled. Most of the features associated with transport were non-chargeable, therefore, very few BSEs were identified. The FCC found that special access was already unbundled sufficiently and required no additional unbundling.

OTHER FCC ACTIVITY IMPACTING SWITCHED ACCESS SERVICE

Local Transport Restructure

[3] P.S.C. Mo. No. 39, Section 6.11.2.

On October 16, 1992 the FCC issued its Report and Order and Further Notice of Proposed Rulemaking, In the Matter of Transport Rate Structure and Pricing, CC Docket No. 91-213. The FCC ultimately ordered the local exchange carriers ("LECs") to restructure transport. This is referred to as local transport restructure ("LTR").

The per MOU transport charge that had existed in the federal access charges was replaced by a combination of usage sensitive and flat rated elements. The Commission further differentiated between tandem routed and direct routed traffic.

If a carrier chooses direct routed transport, the applicable rate elements are:

- DS0 (Voice Grade), DS1 or DS3 switched access monthly recurring charges (MRCs) for the trunk between the SWC and EO
- DS0, DS1 or DS3 switched access mileage, as measured on the V&H[4] coordinates of the SWC and EO
- Entrance Facility MRC
- Multiplexer, if required

If the carrier chooses tandem routed transport, the applicable rate elements are:

- Tandem switching per MOU
- Tandem switched facility per MOU

[4] V = Vertical and H = Horizontal. Similar to longitude and latitude but on a smaller scale.

- Tandem switched facility per minute per mile; mileage measured according to the V&H coordinates of the EO and tandem or EO and SWC, depending on which billing option the carrier chose
- Residual Interconnection Charge (RIC)

As one may note from above, carriers ordering tandem switched transport were given the choice of two billing options at the time of the initial transport restructure. One option allowed tandem switching to be measured from the EO to the serving wire center. The other option, which was never ordered in SWBT prior to July 1, 1998, allowed carriers to be charged direct trunked transport from the tandem to the serving wire center and tandem switched transport from the EO to the tandem. The FCC stated very clearly that this two part structure was interim and would be revised. The *Access Reform Order* did exactly that.

Access Reform

On January 1, 1998 the FCC further refined the local switching recovery mechanism by establishing the EO ports in the *Access Reform Order.* The EO ports are either shared or dedicated. The rate elements available in SWBT's Tariff FCC No. 73 are:

- Shared EO Trunk Port per MOU
- Dedicated EO Trunk Port per month

In addition to establishing the EO trunk port rate elements in the *Access Reform Order*, the FCC also allowed establishment of a separate call set-up charge. Establishing a call set-up charge is similar to unbundling local switching. It is assumed that the interstate cost of setting up a call is already recovered in existing local switching rates. Therefore, if a company chooses to establish a distinct call set-up rate element, local switching should be reduced at an amount equal to the amount that will be recovered from the call set-up charge to ensure revenue neutrality. SWBT has not chosen to offer a separate call set-up charge at this time.

In the *Access Reform Order* the FCC order the LECs to eliminate the unitary rate structure. In English this means LECs could no longer offer carriers two billing options on tandem switched transport. The remaining option, which currently exists in all of the SBC Companies' federal access tariffs, charges the tandem switching rate elements from the EO to the tandem and the direct trunked transport rate elements from the tandem to the SWC.

In addition to eliminating the unitary rate structure, the *Access Reform Order* also incorporated additional restructuring. As with local switching, ports were unbundled from direct trunked transport and tandem switched transport. In addition, multiplexers at the tandem were unbundled. Lastly, the FCC determined that host/remote traffic, which was being handled differently by

different LECs should be assessed its own separate rate elements. This lead to the addition of the following rate elements in transport:

- Dedicated tandem trunk port;
- Shared tandem trunk port;
- Multiplexer;
- Host/Remote; and
- Host/Remote per minute per mile, measured based on the V&H coordinates of the host and remote locations.

The Association of Local Telecommunications Services (ALTS)

The State of Local Competition 2001

Extracted from ALTS's website.

The State of Local Competition 2001

February 2001

The Association for Local Telecommunications Services

FOCAL

TSI

ZHONE

Lucent Technologies
Bell Labs Innovations

ALTS' Annual Report on the State of the Local Telecom Industry, 2001

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Report Editor: David A. Wolcott

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ALTS *Association for Local Telecommunications Services*

Cover Art: DeLancey Printing

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Association for Local Telecommunications Services (ALTS)

ALTS is the leading national industry association whose mission is to promote facilities-based local telecommunications competition. Created in 1987, ALTS is headquartered in Washington, DC and now represents more than 200 companies that build, own, and operate competitive networks – CLECs that are facilities-based. ALTS was founded to harness the shared energy and vitality of the new local competitors and to help ensure that the 1996 Telecom Act is fully implemented and enforced.

Companies Building Digital Futures...

ALTS *Association for Local Telecommunications Services*

February 20, 2001

An Open Letter From John Windhausen, Jr.
President, ALTS

Re: **ALTS' ANNUAL MESSAGE ON THE STATE OF COMPETITION IN LOCAL TELECOMMUNICATIONS**

The competitive landscape in local telecommunications has changed dramatically for the better, and consumers are the big winners. For years, telecommunications consumers demanded new high-speed Internet connectivity, responsive customer service, and lower prices. In passing the Telecommunications Act of 1996, Congress answered the call by opening the local telephone market to competition and creating a new breed of telecommunications company, known as CLECs (Competitive Local Exchange Carriers).

Five years after the passage of the Act, the United States has reasserted its position as the world leader in communications and information technology. Our nation's longest economic expansion in history could not have happened as quickly without the faster, cheaper and more efficient technologies built by America's competitive local exchange carriers.

Substantial Evidence That The Act Is Working

Clearly, Congress had the right idea. The emergence of competition in the local telephone marketplace has generated enormous investment in new technologies and consumer services. Consumers are now beginning to enjoy unprecedented access to high-speed, low-cost Internet access services. Today, over one-half of the U.S. can now receive Digital Subscriber Line (DSL) service – the newest and cheapest broadband technology. Schools, small businesses and consumers are already taking advantage of this low-cost technology. Once the remaining barriers to competition are removed, residential consumers will find that high-speed Internet connections and competitive voice services will be as affordable and as easy to install as a telephone.

ALTS has assembled this second Annual Report on the State of Local Competition to document our tremendous progress since 1996. As the Report demonstrates, the competitive telecommunications industry has grown in almost every way imaginable – access lines, miles of new networks constructed, revenues, market share, and customers served. To highlight just one statistic, CLECs now claim over 8% of the local telecommunications market with over 16 million access lines in service.

The new competitive telecom companies have invested massive amounts of capital in new networks that have made access to the Internet faster and more reliable, helping to enable our 'New Economy'. These new local telecom companies have created almost 100,000 high-tech jobs and invested $56 billion in new infrastructure to serve the booming demand for voice and data services.

Challenges to the '96 Act Remain: Threats to Nascent Competition

Notwithstanding the tremendous progress made by CLECs, the competitive industry continues to face enormous challenges. The incumbent telephone companies continue to make it extremely difficult for competitors to interconnect with their networks, despite numerous federal and state orders requiring the ILECs to open their networks to competition. Furthermore, building owners often resist competitors' requests to provide broadband wireless and wireline services to commercial tenants and apartment-dwelling families. Finally, many cities make competitors' lives miserable by imposing enormous franchise fees and onerous regulations that are unnecessary and anti-competitive

Thus, despite our significant growth, competitors remain far behind the behemoth Bell Companies in revenues, customers, and lobbying resources. **The incumbent local exchange companies, the "ILECs", still serve about 92% of the local telephone market.** Rather than compete against each other outside their home territories, the Baby Bells have merged into even larger companies.

In short, while we have made great strides in serving the needs of consumers, we could have done so much more if the marketplace had been fully and irreversibly opened to competition. For these reasons, ALTS will focus in the coming year on opening the local market even further. We will begin by attempting to improve the level of cooperation from incumbent telephone companies, building owners and cities. We will continue to develop stronger ties with the consumers who demand our services and work together to remove the last remaining barriers to competitive service.

Looking Forward

A year from now, I hope to report significant progress on all these fronts. Ultimately, I believe the irresistible force of consumer demand – demand for the fruits of competition in telecommunications – will prevail over monopoly obstruction, which once appeared immovable. Our success in bringing competition to local markets will translate into tremendous benefits for every American and extend our nation's global leadership in telecommunications.

Sincerely,

John Windhausen, Jr.

John Windhausen, Jr.
President
ALTS

ALTS Network Members

2nd Century Comm.
Actel Integrated Comm.
Adelphia Business Solutions
Advanced Radio Telecom
Advanced TelCom Group
Allegiance Telecom
ALLTEL Communications
Arbros Communications
Avista Communications
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Broadslate Networks
BroadStreet Comm.
Broadwing
Cablevision Systems
Carolina Broadband
Cavalier Telephone
Cbeyond Communications
ChoiceOne Communications
CityNet Telecom
Comcast Telecommunications
Communications Design
Communications Products
CompleTel
Con Edison Communications
Connect Communications
Connect South
Conversent Communications
CoreComm Ltd.
Covad Communications
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DialTek
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Eagle Communications
Electric Lightwave
En-Touch Systens
FairPoint Communications
FBN Indiana
FiberNet Telecom
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Gabriel Communications
Global NAPs
ICG Telecom Group
Intermedia Communications
IP Communications
KMC Telecom
Local Telephone Data Service
McLeodUSA
Metromedia Fiber Network
Network Access Solutions
Network One
Network Plus
Network Telephone
New Edge Networks
NewSouth Communications
North American Telecom
NorthPoint Communications
OpTel
Pac-West Telecomm
Pae Tec Communications
Penn Telecom
RCN
Reliant Energy HL&P
Rhythms NetConnections
SCC Communications
TalkingNets
TelePacific Communications
Teligent
TESS Communications
Time Warner Telecom
TXU Communications
Universal Access
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Virtual Hipster Corporation
Western Wireless
Winstar Communications
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Accelerated Networks
Access Lan
Accordion Networks
Adesta Communications
Advanced Fibre Comm.
Advanced Switching (ASC)
Alcatel
Allied Capital
Amber Networks
American Management Sys. (AMS)
AssetDepot.com
AterWynne LLP
Atlantic-ACM
B2B Connect
Beacon Networks
BizSpace, Inc.
Broadband Gateways
BroadSoft
Calix Networks
Casey, Gentz & Sifuentes
Cathey Hutton & Associates
Cisco Systems
Cole, Raywid & Braverman
COLO.com
Comdisco
CommTech Corporation
CompassRose International
Convergent Networks
Copper Mountain Networks
CopperCom
Coreon, Inc.
Corning, Inc.
Cygent
Daniels & Associates
Davis Wright Tremaine
Dickstein, Shapiro, Morin & Oshinsky
DSET Corporation
Dun & Bradstreet
Dynegy Connect
EDSL Networks, Inc.
Eftia-OSS Solutions, Inc.
Encompass Global Technologies
Ensemble Communications
Fiber Technologies
Fiberworks, Inc.
GE Capital Corp.
General Datacomm, Inc.
Geyser Networks
Henkels & McCoy, Inc.
Hitachi Telecomm (USA), Inc.
Holland & Knight LLP
HyperEdge
iMagicTV
IMCI Technologies
Innovative Systems
Intertech Management
Jenkens & Gilchrist
Jetstream Communications
John Staurulakis, Inc.
Katz, Kutter, Haigler, Alderman
Kelley Drye & Warren
LeBoeuf, Lamb, Greene & MacRae
Lemay-Yates Associates
LighTrade, Inc.
Linguateq, Inc.
LiveVault Corporation
Lucent Technologies
Lynch Associates
Macrologic, Inc.
Management Recruiters of Stamford
Mandl & Mandl LLP
Marconi Communications
Martin & Associates, Inc.
MaxBill
Mayan Networks
Media Venture Partners
MetaSolv Software, Inc.
NCH Communications
Network Engineering Consultants
Neustar
New Paradigm Resources Group (NPRG)
Nichols & Pena, LLP
NightFire Software
Norris, McLaughlin & Marcus, P.A.
Nortel Networks
Norwest Equity Partners
Nossaman Guthner Knox & Elliot LLP
OAN Services
Occam Networks
O'Keefe Ashenden Lyons & Ward
Parker Poe Adams & Bernstein
Pivotech Systems, Inc.
Pliant Systems, Inc.
Precision Software
PriceWaterhouseCoopers
Quintessant Communications
Ryan, Russell, Ogden & Seltzer
SALIX Technologies
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Siemens ICN
Smith, Gambrell & Russell, LLP
Sonus Networks
Sphera Optical Networks, Inc.
Swidler & Berlin
Syndeo Corporation
Tachion Networks, Inc.
TD Madison & Associates
Technologies Management, Inc.
Tekelec
Telcordia Technologies, Inc.
Telica
Telsource Corporation
The Management Network Group
TollBridge Technologies, Inc.
Trendium, Inc.
TSI
Turnstone Systems
Tyco Electronics Corporation
Verizon
VINA Technologies
Vocal Data, Inc.
Vroom Technologies
Walters & Joyce, P.C.
Warren Morris & Madison
Willkie Farr & Gallagher
Yale Properties USA

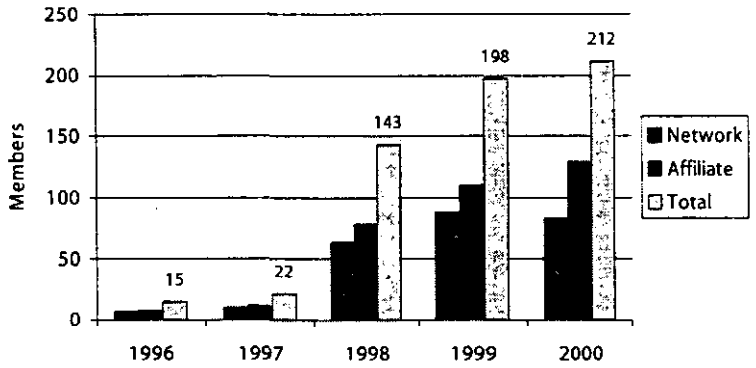
The CLEC Industry:
Metrics & Overview

The Association for Local Telecommunications Services

Companies Building Digital Futures...

ALTS Membership Trends

1996 - 2000



ALTS' membership 'took off' after the passage of the 1996 Telecom Act. However, CLEC consolidation, bankruptcies and insolvency are likely to cause a drop in ALTS' membership in 2001. ALTS expects membership to rebound in 2002 as the industry matures and as ALTS strengthens its membership outreach.

CLEC Industry Metrics

CLEC Access Lines: 16,162,223
Total U.S. Access Lines: 196,000,000
Market Share: 8.2%
Route Miles: 218,445
Buildings Served: 1,146,882
Voice Switches: 991
Data Switches: 2,071
Employees: 94,494

Source: New Paradigm Resources Group (NPRG); Credit Suisse First Boston (CSFB), FCC

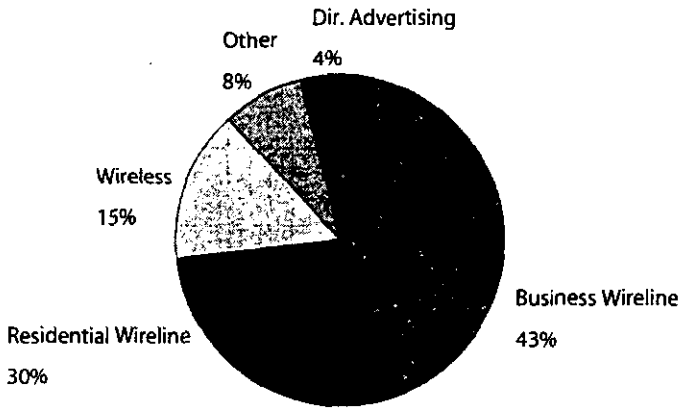
Note(s): Facilities and employee data based on 3Q00 company reports. Employee total does not include ALLTEL, AT&T or WorldCom

Five years after the passage of the Act, CLECs now hold over 8% of all local access lines, up from 5.6% one year ago. Network route-miles, the infrastructure upon which the New Economy will depend, have increased from 78,506 in 1997 to over 200,000 miles today. Starting with just 331 data switches in 1997, CLECs now have over 2,000 installed as America enters the digital broadband age. Most notable is the CLEC investment in human capital with CLECs creating almost 100,000 skilled, high-tech jobs.

Companies Building Digital Futures...

U.S. Communications Market

CLEC Addressable Market Opportunity



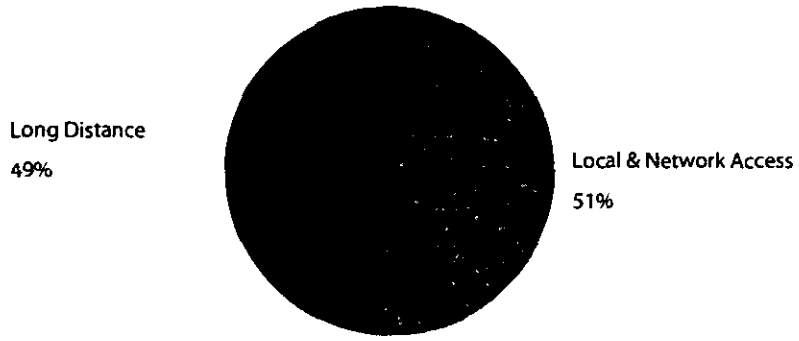
$285 Billion

Source: Bear Stearns

The U.S. communications market has seen remarkable growth since the 1984 divestiture and the passage of the 1996 Act. With the demand for communications more insatiable than ever, the U.S. market has reached a value of $285 billion today. High-volume business customers account for 43% of the market with residential users accounting for 30% of the market. Wireless, also a nascent industry, today accounts for 15% of the market.

U.S. Business Wireline Market

CLEC Addressable Market Opportunity



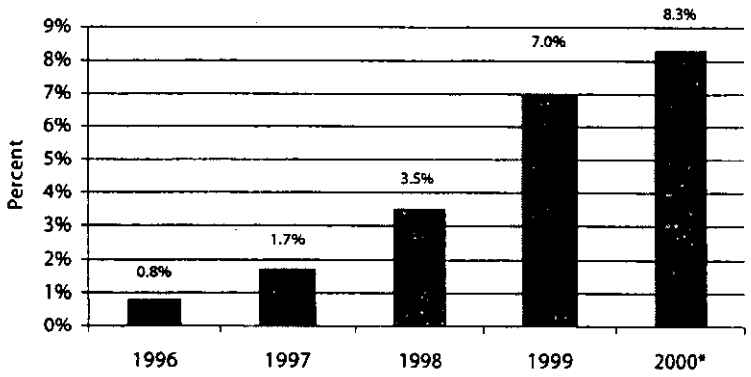
$122 Billion

Source: Bear Stearns

The business wireline market is one of the most attractive markets for many CLECs. To raise capital and build their networks, CLECs must target customers that offer the greatest rate of return. This strategy is consistent with how the Bell system originally erected its network, first to serve highly concentrated areas while letting independent telcos serve the more rural areas. Such high-volume clients enable CLECs to take advantage of geographic concentration and network scalability. As the industry matures, we will see a greater push into residential markets further expanding the benefits of competition.

Companies Building Digital Futures...

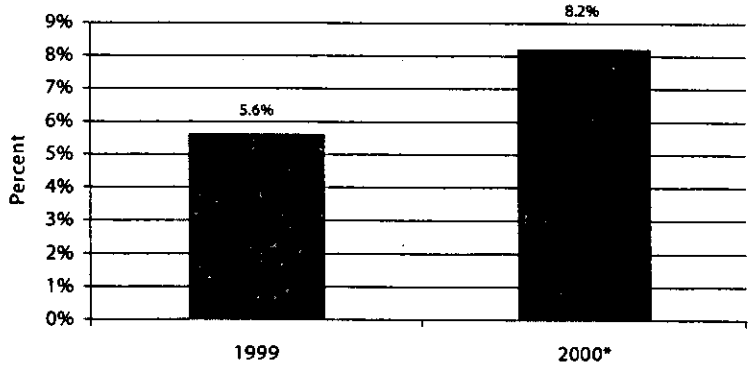
CLEC Market Share: Revenue



Note: (*) 2000 data based on 3Q00 company reports & 4Q00 estimates.
Source: NPRG, FCC, Bear Stearns

As of the 4Q00, CLECs are estimated to hold 8.3% of the local telecommunications market in terms of revenue. In dollar terms, CLECs posted $39.1 billion in total revenue with $7.5 billion of such revenue derived from switched local access service. Due to the market slowdown, increased bankruptcies and a maturing market, 2000 represents the first year that CLECs will not have doubled their revenue market share.

CLEC Market Share: Access Lines

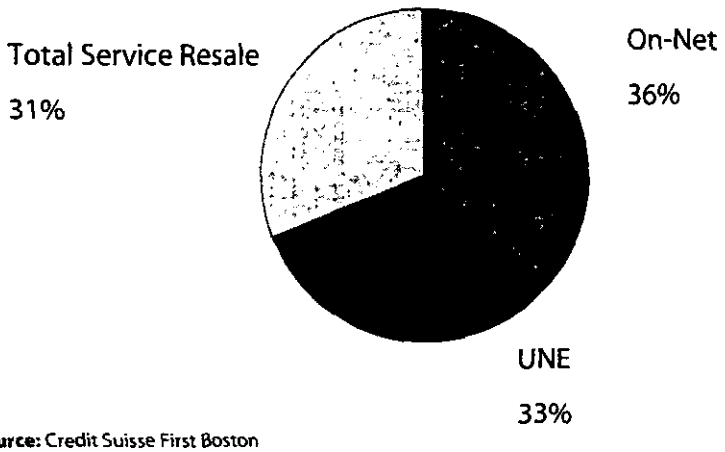


Note: (*) 2000 data based on 3Q00 company reports.
Source: NPRG

As of the 3Q00, CLECs held 8.2% of the local telecommunications market in terms of access lines. If the 2000 trend continues, CLECs can reasonably be expected to hold 9.3% of total access lines as of the 4Q00. In terms of access lines, 2000 also represents the first year that CLECs will not have doubled their market share. This trend is to be expected, however as many larger CLECs experienced financial difficulty in 2000 leading to lower access line growth.

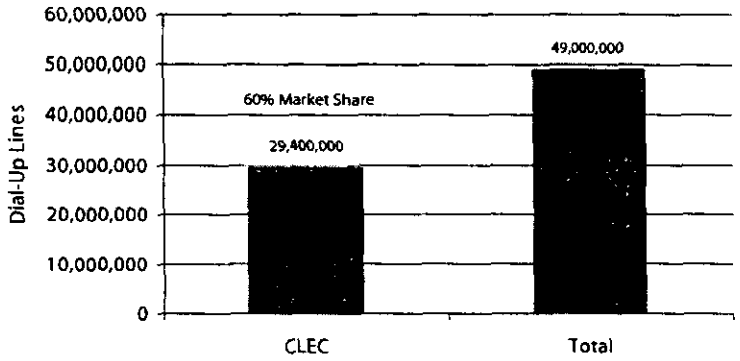
Companies Building Digital Futures...

2Q00 CLEC Line Mix



Source: Credit Suisse First Boston

Internet Dial-Up Lines Served by CLECs

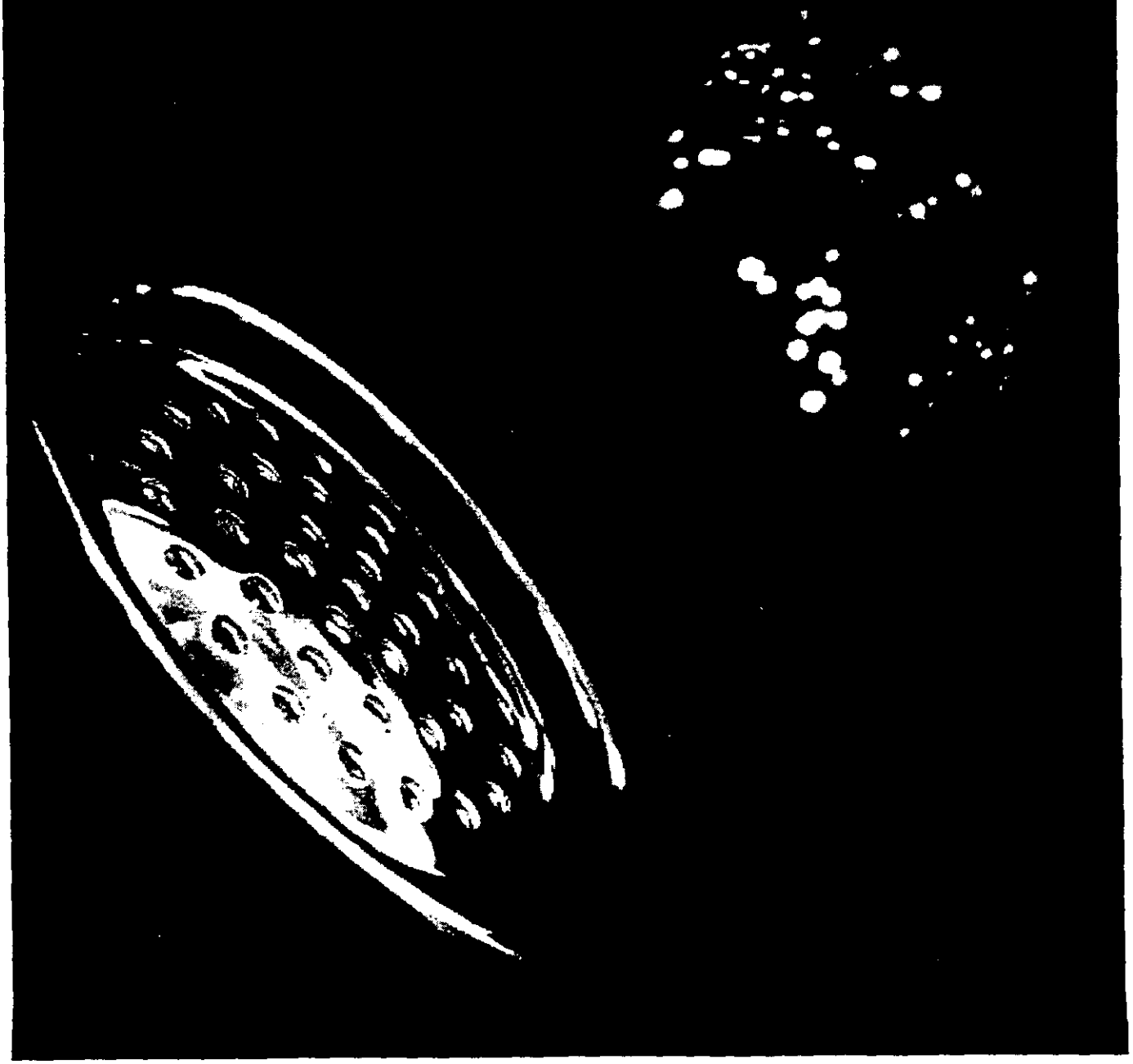


Source: NPRG

Congress envisioned three methods by which carriers could enter the local market, (1) facilities-based entry, (2) unbundled network elements (UNEs), and (3) resale. ALTS represents CLECs that are facilities-based, CLECs that invest in their own facilities or use portions of the ILEC network (UNEs) in conjunction with their own equipment. As seen, carriers utilizing these two entry strategies account for almost 70% of local competition. The amount of resale competition is expected to decline as CLECs continue to build their networks.

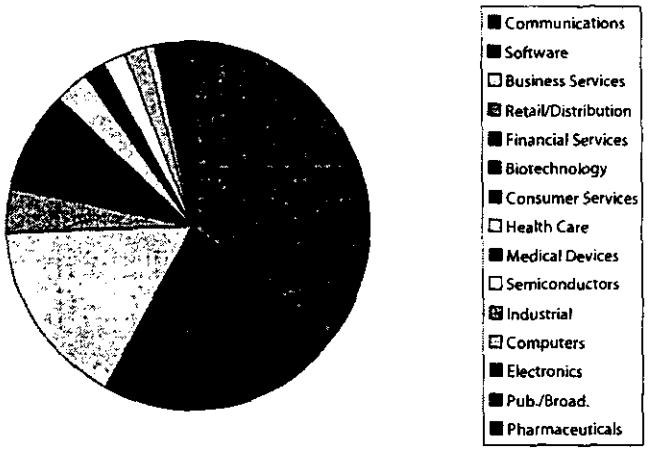
With the passage of the 1996 Act, Internet service providers (ISPs) found an industry group willing and able to supply the growing demand for increased connectivity and modernized facilities. Brad Jenkins, President of JPS.net, the largest ISP in northern California outside San Francisco, notes that without CLEC networks, ISP customers in "rural communities like... Laytonville, Mojave and Yosemite would pay per-minute charges to reach the nearest larger city."

The CLEC Industry:
Capital Formation



Companies Building Digital Futures...

2000 (*Q1-Q3*) Venture Capital Spending by Industry

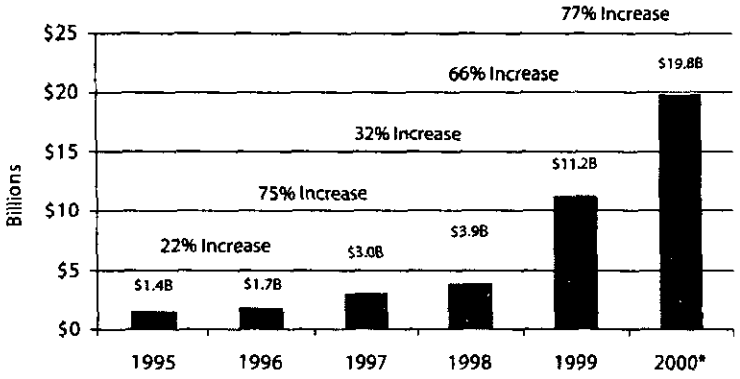


Source: PriceWaterhouseCoopers

Total 2000 (Q1 - Q3) VC Investment: $54.5B

Despite the slowdown in equity markets, investment in communications on the part of venture capitalists continued to grow unabated in 2000. For the first three quarters of 2000, $19.8 billion, or 36%, of the $54.5 billion total venture capital (VC) was directed towards the communications industry. This represents an increase from 30% for the same period in 1999 and an increase from 28% in 1998.

VC Dollars Spent in Communications



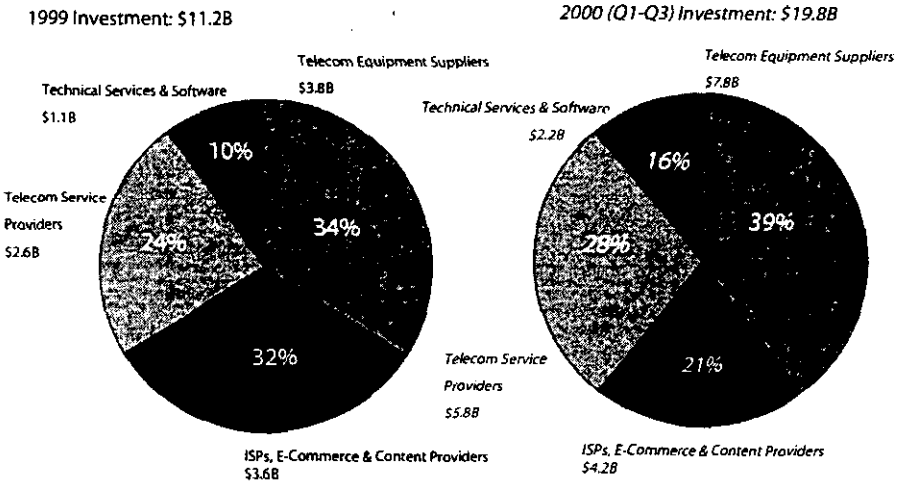
Note: (*) 2000 data represents 1Q00 - 3Q00.

Source: PriceWaterhouseCoopers

With the passage of the 1996 Act, the communications industry saw a massive influx in VC as innovation and entrepreneurialship took hold. With $1.4 billion of VC directed towards the communications industry in 1995, that figure reached almost $20 billion in the first three quarters of 2000 alone. Since 1995, growth rates for communications VC have consistently reached double-digits with the previous two years experiencing growth rates in excess of 50%.

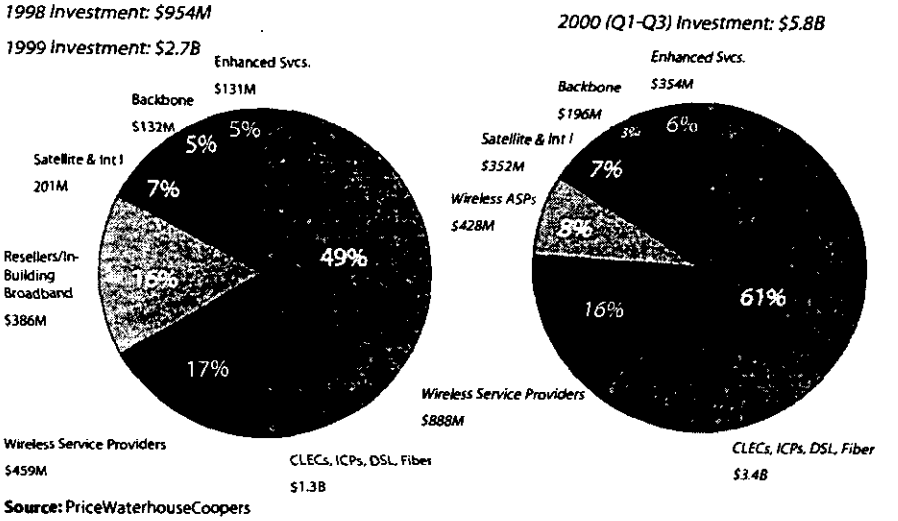
Companies Building Digital Futures...

VC Investments in the Communications Industry



Source: PriceWaterhouseCoopers

VC Investments in Telecom Service Providers



Source: PriceWaterhouseCoopers

For the first three quarters of 2000, $5.8 billion, or 28%, of the $19.8 billion total VC, or 'seed money', in the communications industry was directed at service providers, up from $2.6 billion in 1999. This represents an increase from 24% in 1999. Equipment suppliers, the companies that manufacture the facilities on which competition is built, secured the lion's share of VC investment. Equipment vendors secured $3.8 billion, or 34%, of communications VC in 1999 and $7.8 billion, or 39%, for the first three quarters of 2000. The recent financial problems plaguing CLECs have spread to this crucial sector as well with Barron's noting that "the elephant in the room that now threatens to bring down the economy is the telecommunications industry".

Companies competing for the local market led telecommunications service providers in VC investments. In the first three quarters of 2000, CLECs, ICPs, DSL and fiber companies received $3.4 billion, or 61%, of total service provider VC.

Companies Building Digital Futures...

Top 2000* VC Investments in the CLEC** Sector

Company	Service	Amount ($M)
Carolina Broadband *(Charlotte, NC)*	ICP	$409
Looking Glass Networks *(Oak Brook Terr., IL)*	Fiber optic network	$236
Velo.com *(Englewood, CA)*	Fixed local wireless	$234
Yipes *(San Francisco, CA)*	Fiber optic network	$217
NT Corporation *(Pensacola, FL)*	DLEC-DSL	$213
Cogent *(Washington, DC)*	All-optical network	$206
Formus Communications *(Reston, VA)*	Local broadband wireless	$175
Global Metro Networks *(Silver Spring, MD)*	Metro dark fiber networks	$155
Broadview Networks *(New York, NY)*	ICP	$150
KNOLOGY *West Point, GA)*	ICP	$150
Darwin Networks *(Louisville, KY)*	DLEC-DSL	$121
Grande Communications *(Austin, TX)*	ICP	$109
Aerie Networks *(Denver, CO)*	Broadband fiber optic	$105
@Link Holdings *(Louisville, CO)*	DLEC-DSL	$101
CityNet Corp. *(Silver Spring, MD)*	Broadband Wholesaler, CLEC	$100
airBand Communications *(Addison, TX)*	High-speed Broadband	$ 90
Flashcom *(Huntington Beach, CA)*	DLEC-DSL	$ 84
2nd Century *(Arlington, VA)*	ICP	$ 77
Digital Broadband *(Waltham, MA)*	DLEC-DSL	$ 75
TriVergent *(Greenville, SC)*	ICP-DSL	$ 67
STSN *(Salt Lake City, UT)*	Hotel In-Building Broadband	$ 65
New Edge Networks *(Vancouver, WA)*	DLEC-DSL	$ 63
Urban Media *(Palo Alto, CA)*	In-Building Broadband	$ 59
Net Rail *(Atlanta, GA)*	Internet Backbone Provider	$ 55
InternetConnect *(Torrance, CA)*	ISP-DSL	$ 53
Maverix.net *(Chicago, IL)*	DLEC-DSL	$ 43
BlueStar *(Nashville, TN)*	DLEC-DSL	$ 34
Total		**$3.4B**

Notes: (*) 2000 data represents 1Q00 - 3Q00. (**) includes CLECs, ICP, DSL & fiber.

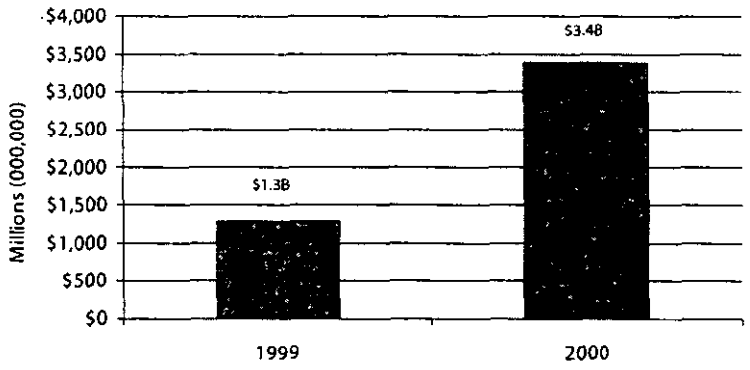
Source: PriceWaterhouseCoopers

While many of the capital markets were virtually closed to the CLEC industry, the VC segment continued to invest large amounts of capital in the CLEC sector. VC provides the critical seed money for new competitors to secure their first rounds of financing. As companies mature, much of the sources of funding shifts to the equity markets and strategic and institutional investors. In 2000, seizing the opportunity created by the overwhelming demand for broadband connectivity, VC investment flowed heavily into data and broadband providers. A total of $3.4 billion was poured into the CLEC, ICP, DSL and fiber industries. Of the top VC investments noted, 8 were directed at ALTS members: Carolina Broadband, Yipes Communications, CityNet Corp., 2nd Century Communications, Digital Broadband Communications, TriVergent (Gabriel Communications), New Edge Networks and Bluestar (Covad). Digital Broadband recently filed for Chapter 11 bankruptcy.

Companies Building Digital Futures...

Venture Capital Investments in the CLEC Sector*

*1999 vs 2000***



Notes: (*) includes CLECs, ICP, DSL & fiber. (**) 2000 data represents 1Q00 - 3Q00.

Source: PriceWaterhouseCoopers

As noted, the CLEC sector saw an increase in VC funding from $1.3 billion in 1999 to $3.4 billion for the first three quarters of 2000. This funding provides crucial cash to sustain and expand operations in such a capital-intensive market. Seeking to build networks that span all across the country, CLECs use this funding to compete for customers with the incumbents that begin with 100% market share.

Select Strategic Investments in the CLEC Sector

Date	Company	Investor	Amount ($M)
January 2000	Digex (Intermedia)	Compaq	$50
January 2000	Digex (Intermedia)	Microsoft	$50
January 2000	Intermedia	KKR	$200
February 2000	US LEC	Bain Capital, Thomas Lee Partners	$300
March 2000	CTC Communications	Bain Capital, Thomas Lee Partners, CSFB	$300
March 2000	CAIS Internet	3COM	$20
May 2000	CAIS Internet	Microsoft	$40
May 2000	XO Communications	Forstmann Little	$400
November 2000	Winstar	Microsoft, CPQ Holdings, CSFB & WCAS	$270
Total			***$1.63B***

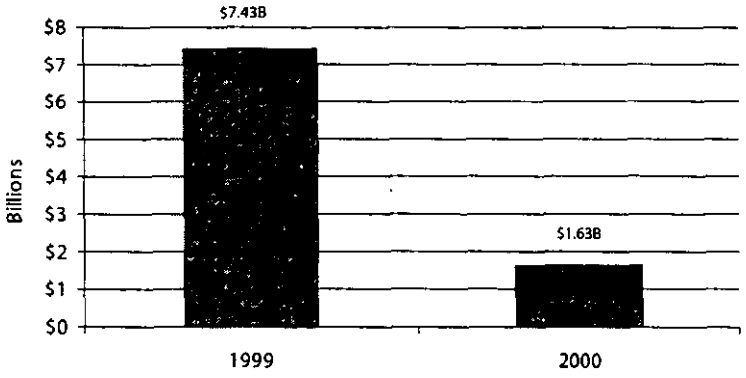
Source: Morgan Stanley Dean Witter

For the year-end 2000, the CLEC industry saw a marked decrease in strategic investments, or private funding. Morgan Stanley Dean Witter values the top investments in CLECs, or their subsidiaries, at $1.63 billion. Of the investments noted, 5 were directed at ALTS network members, (1) Intermedia, (2) US LEC, (3) CTC Communications, (4) XO Communications (*formerly NEXTLINK*), and (5) Winstar.

Companies Building Digital Futures...

Select Strategic Investments in the CLEC Sector

1999 vs 2000



Source: Morgan Stanley Dean Witter

As noted, the CLEC sector saw a marked decrease in strategic investments as this sector of the capital markets was virtually off-limits to CLECs. At year end 1999, CLECs secured $7.43 billion in strategic investments. In 2000, with financial markets souring and private investors shutting their doors, investment dropped to $1.63 billion.

Merger & Acquisition Activity in the CLEC Sector

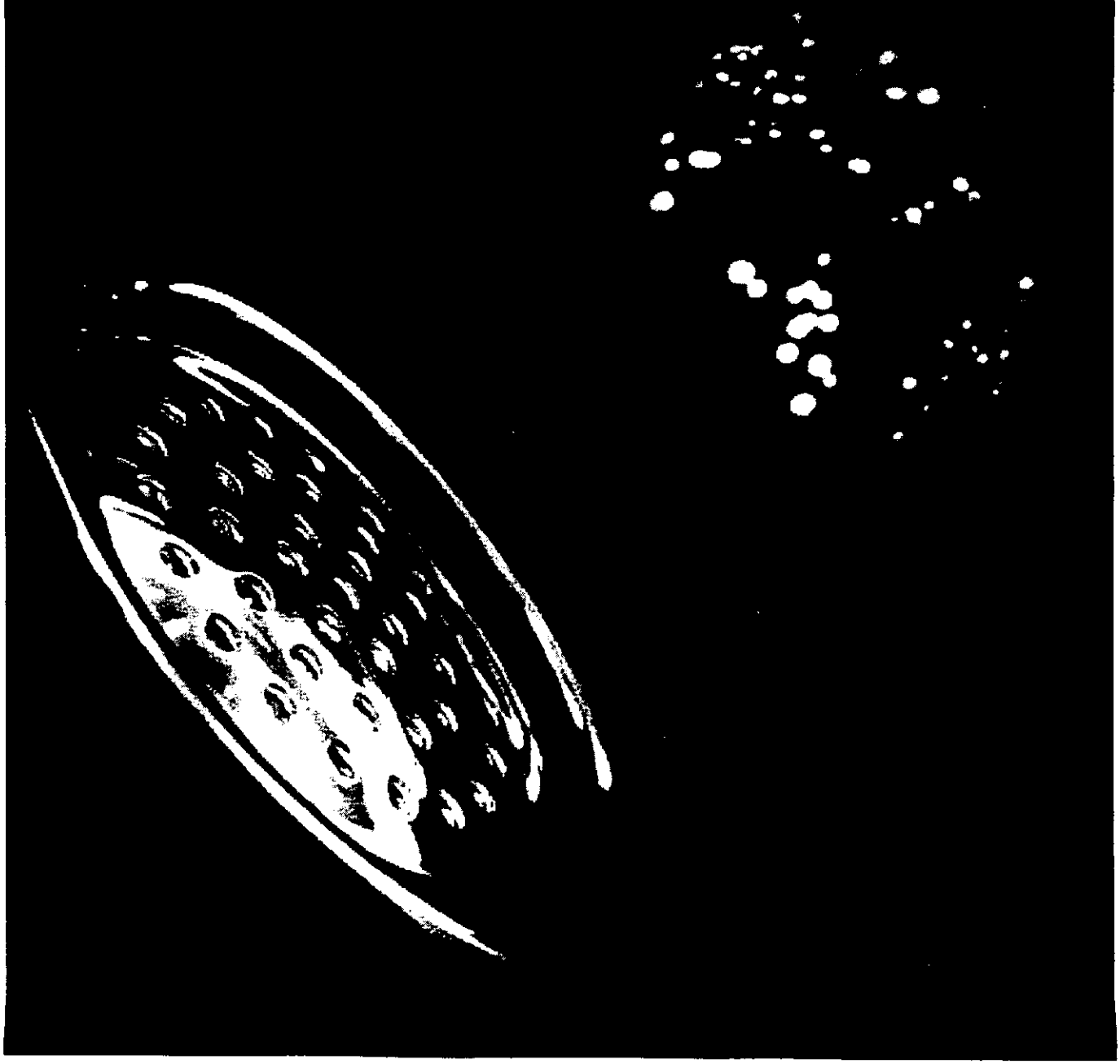
Date	Acquirer	Target	Firm Value ($B)
January 2000	XO Communications	Concentric Networks	$2.217
February 2000	Global Crossing	Ixnet	$3.672
February 2000	Global Crossing	IPC	$2.865
April 2000	McLeodUSA	Splitrock	$1.826
April 2000	CoreComm	ATX	$ .900
April 2000	Time Warner Telecom	GST	$ .690
April 2000	Advanced Radio Telecom	Broadstream	$ .365
April 2000	Mpower	Primary Network	$ .145
May 2000	Choice One	US XChange	$ .515
June 2000	Covad	Bluestar	$ .202
June 2000	Gabriel *(equal merger)*	TriVergent	
September 2000	WorldCom	Intermedia	$5.509
October 2000	McLeodUSA	CapRock	$ .532
December 2000	Hughes	Telocity	$ .180
Total			***$19.618B***

Note: Date indicates month that transaction was announced. Not all transactions have been completed.

Source: Morgan Stanley Dean Witter

Seeking to cover the broadest possible service area and to combine capital resources, a number of CLECs merged or were acquired in 2000. Of the transactions noted, 14 were ALTS members at the time of the announcement, (1) XO Communications, (2) McLeodUSA, (3) CoreComm, (4) Time Warner Telecom, (5) GST, (6) Advanced Radio Telecom, (7) Mpower, (8) Choice One, (9) US XChange, (10) Intermedia, (11) Gabriel, (12) TriVergent, (13) Covad, and (14) Bluestar.

The CLEC Industry:
Facilities, Labor & Revenue

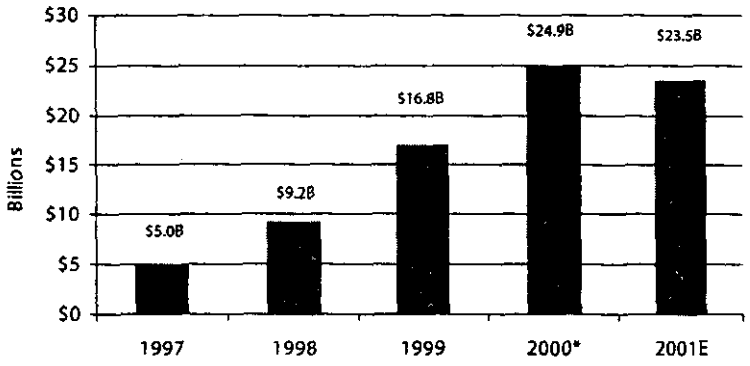


The Association for Local Telecommunications Services

Companies Building Digital Futures...

Annual CLEC Capital Expenditures

$56 Billion Since 1997



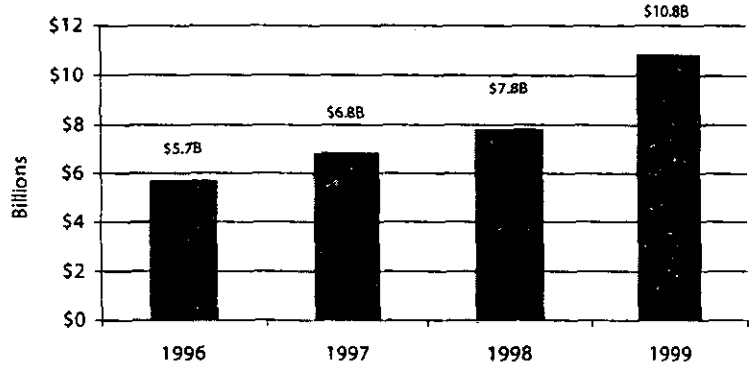
Note: (*) Actual data through 3Q00 and projected 4Q00 expenditures.

Source: Paine Webber, NPRG

CLECs are in a highly capital-intensive industry. One measurement of CLECs' commitment to building new networks is their level of capital expenditures. Since 1997, CLECs have invested $56 billion in infrastructure that will carry the next generation of communications. With the current market uncertainty, analysts expect capital expenditures to level off in 2001.

Cable Industry Capital Expenditures

1996 - 1999

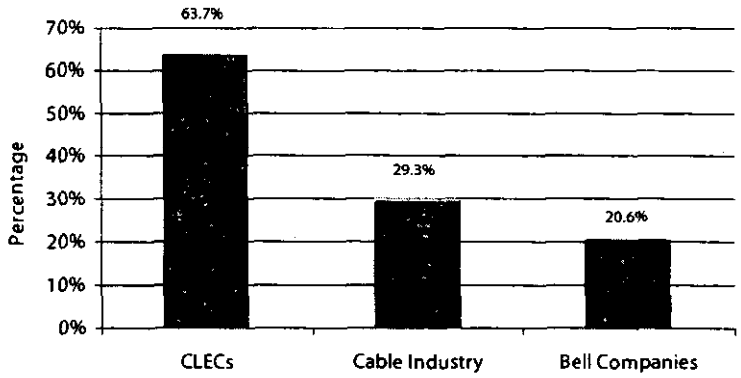


Source: National Cable Television Association (NCTA)

When comparing the CLEC and cable industries for the years 1997 - 1999, CLECs outpaced cable in capital expenditures each of the last two years on record. CLECs outpaced cable industry capital expenditures by $1.4 billion in 1998 and $6 billion in 1999. With both industries competing for many of the same voice and data customers, the intense rivalry has contributed to the rapid growth of high-speed broadband Internet access in the United States.

Companies Building Digital Futures...

Capital Expenditures as a Percentage of Revenues

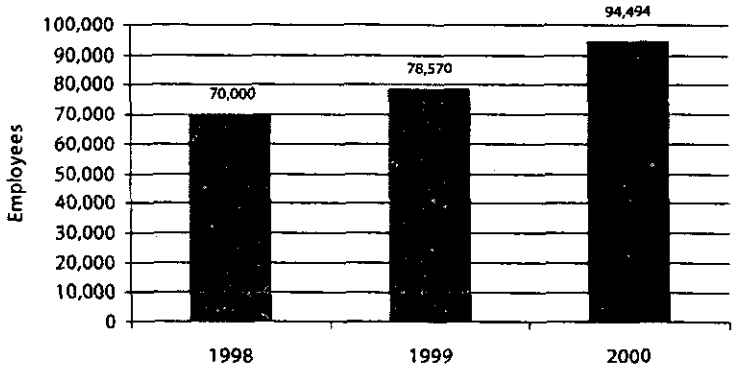


Notes: Cable industry data represents 1999 data. CLECs and Bell Companies represents 2000 data.

Source: NPRG, NCTA, company reports

In comparison to the cable industry and the Bell Companies, CLECs reinvest a much larger portion of their revenues back into facilities (e.g. capital expenditures). In 2000, CLECs invested almost 64% of their revenues in capital expenditures. For the same period, the Bell Companies invested 21% with the cable industry investing 30% in 1999. Total capital expenditures were valued at $24.9 billion for CLECs (2000), $10.2 billion for the cable industry (1999) and $33.6 billion for the Bell Companies (2000).

CLEC Employees



Note: Employee totals do not include AT&T, WorldCom or ALLTEL.

Source: NPRG, Merrill Lynch

The growth in the CLEC industry has led to new, high-value jobs in the communities in which they invest and compete. The competitive industry has grown from a negligible employee base to almost 100,000 employees today. However, with the recent downturn in the equity markets and with investor sentiment towards CLECs at historic lows, many companies have announced sharp cutbacks in staffing levels as they attempt to conserve cash to continue operations through more challenging financial times.

Public CLECs

Market Cap & 52 Week Performance

Company	Market Cap ($M)	52 Week Change	Ticker Symbol
Adelphia Business Solutions	$480.7	-86.30%	ABIZ
Advanced Radio Telecom	$89.7	-94.10%	ARTT
Allegiance Telecom	$2,130	-77.50%	ALGX
Allied Riser	$157.6	-89.50%	ARCC
ChoiceOne Communications	$504.7	-61.60%	CWON
Convergent Communications	$30.6	-89.00%	CONV
CoreComm Ltd.	$135	-94.40%	COMM
Covad Communications	$3449	-94.90%	COVD
CTC Communications	$300.7	-68.00%	CPTL
Cypress Communications	$53	-95.00%	CYCO
DSL.net	$132	-93.40%	DSLN
e.spire Communications	$54.8	-92.40%	ESPI
Electric Lightwave	$212.4	-79.70%	ELIX
FiberNet Telecom Group	$137.7	-75.80%	FTGX
Focal Communications	$932.3	-65.20%	FCOM
General Communications	$390.0	+16.10%	GNCMA
ICG**	$16	-98.00%	ICGX
Intermedia	$855.1	-76.10%	ICIX
ITC^DeltaCom	$427.2	-80.10%	ITCD
Log On America	$15.1	-91.30%	LOAX
McLeodUSA	$7,946	-52.40%	MCLD
Mpower Communications	$327.8	-85.90%	MPWR
Net2000 Communications	$98.5	-63.29%*	NTKK
Network Access Solutions	$71	-95.10%	NASC
Network Plus	$324.6	-85.10%	NPLS
NorthPoint Communications**	$79	-98.00%	NPNT
NTELOS	$269.2	-46.50%	NTLO
Pac-West Telecom	$169.6	-83.50%	PACW
RCN	$756.8	-86.00%	RCNC
Rhythms NetConnections	$94.5	-97.00%	RTHM
Teligent	$115.4	-97.70%	TGNT
Time Warner Telecom	$6,713	-06.70%	TWTC
US LEC	$228.3	-77.00%	CLEC
USOL Holdings	$23.3	-78.90%	USOL
Winstar	$1,173	-73.50%	WCII
XO Communications	$6,354	-66.90%	XOXO
Market Cap	**$32.14 billion**		

Note(s): as of mid-day 2.20.01 unless noted otherwise; includes providers that operated primarily as a CLEC and derive a significant portion of revenues from CLEC services. For example, AT&T (T), ALLTEL (AT), Level 3 (LVLT), Metromedia Fiber Network (MFNX) and WorldCom (WCOM) were excluded; (*) reflects 6-month change; (**) as of 11.30.00

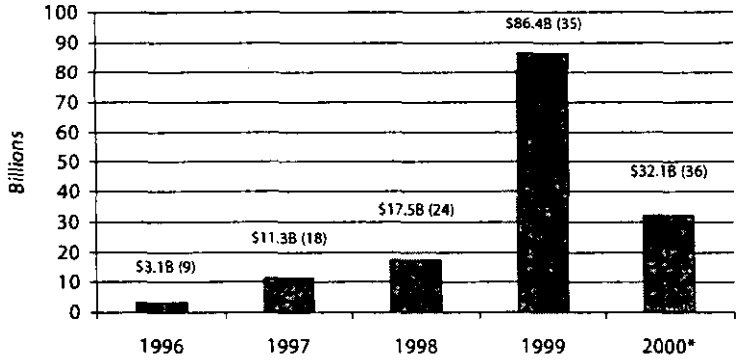
Sources: WSJ.com, MSNBC.com, NPRG, Morgan Stanley Dean Witter

In 1999, there were 35 public CLECs. In 2001, there are 36 publicly listed CLECs. With the equity markets virtually closed to the CLEC industry, few CLECs successfully went public in 2000. In addition, many of the companies noted are in danger of being delisted or are currently in Chapter 11 proceedings. Of the public CLECs, only one saw a positive 52-week change, General Communications of Alaska. A majority (33 of 36) saw their equity values fall over 50% in the previous 52-weeks.

In addition to the companies noted, the following CLECs have parent companies that are publicly traded: ALLTEL (AT), Avana Communications (GCDV), Black Hills FiberCom (BKH), Cablevision Lightpath (CVC), Comcast Communications (CMCSK), Conectiv Communications (CIV), Cox Communications (COX), CTC Exchange Services (CTCI), CTSI (CTCO), HickoryTech (HTCO), MH Lightnet-Comcast (CMCSA), NEON Optica (NOPT), SBC Telecom (SBC), TDS Metrocom (TDS) and Vitts (SFE).

Companies Building Digital Futures...

Market Capitalization

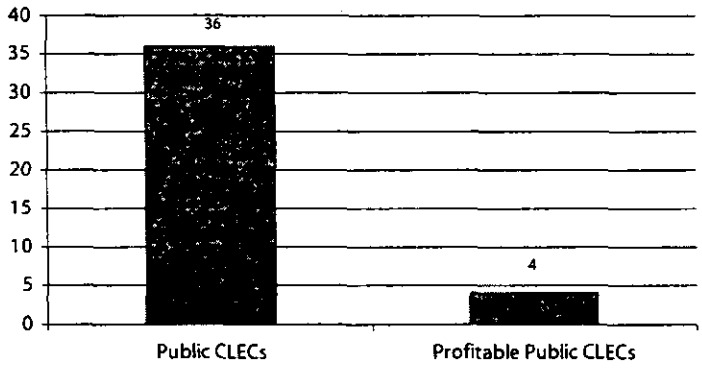


Note(s): (*) as of mid-day 2.20.01; includes providers that operated primarily as a CLEC and derive a significant portion of revenues from CLEC services. For example, AT&T (T), ALLTEL (AT), Level 3 (LVLT), Metromedia Fiber Network (MFNX) and WorldCom (WCOM) were excluded. Number of public CLECs in parentheses.

Source: WSJ.com, MSNBC.com, NPRG, Morgan Stanley Dean Witter, ALTS

Due to the steep fall in CLEC equity values, total CLEC market capitalization fell over 50%, from $86 billion in 1999 to $32 billion as of February 2000. The number of public CLECs saw an increase from 9 in 1996 ($3.1 billion market cap) to 36 in 2000. The total 2000 market cap escaped an even steeper drop due to the less severe decline in some of the first-tier CLECs which comprise a larger portion of total CLEC market capitalization.

CLECs Earning A Profit



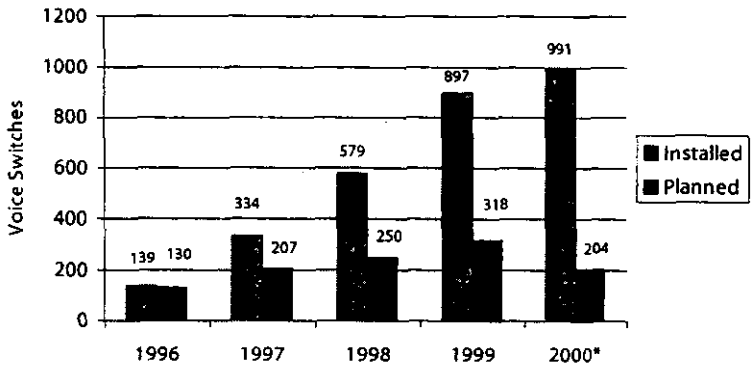
Note: Profitability defined as a positive net profit margin.

Source: WSJ.com, MSNBC.com, NPRG, Morgan Stanley Dean Witter, ALTS

Exemplifying the capital intensive nature of local telecommunications, five years after the passage of The Act, only 4 of the public CLECs are profitable (defined as a positive net profit margin). In 1999, only 1 public CLEC was profitable and prior to 1999, no public CLECs were profitable. The four CLECs in question are Intermedia Communications, NTELOS, Pac-West Telecomm & Time Warner Telecom.

Companies Building Digital Futures...

Voice Switches:
Installed & Planned

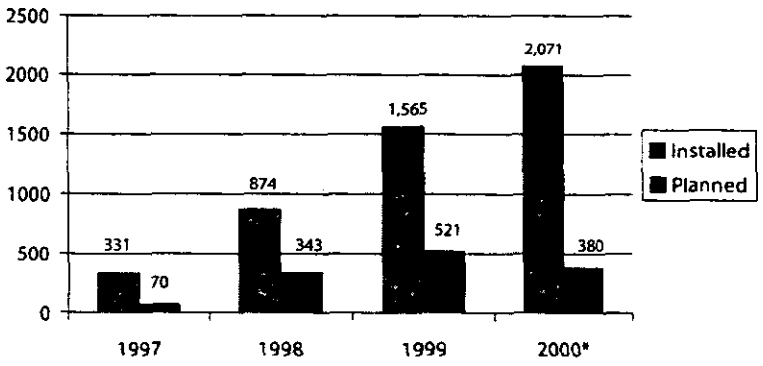


Note: (*) 2000 data through 3Q00.

Source: NPRG

The most basic level of the network is the switch, the piece of equipment that selects the appropriate path for the transmission of a telecommunications signal. CLECs have been rapidly installing these crucial facilities and have almost 1,000 voice switches in operation as of the 3Q00. However, with many companies experiencing scaled back operations amid financial difficulties, planned switches experienced its first decrease since the passage of the Act.

Data Switches:
Installed & Planned



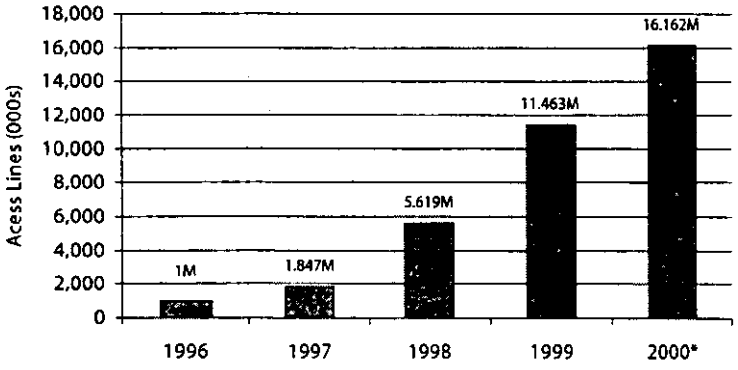
Note: (*) 2000 data through 3Q00.

Source: NPRG

Fueled by the demand for broadband connectivity, data switches have seen an even faster deployment rate than traditional voice switches. In an effort to meet the soaring demand for broadband services, CLECs now have over 2,000 such switches in place. However, again due to scaled back network expansion, planned data switches also experienced its first drop in 2000.

Companies Building Digital Futures...

CLEC Access Line Growth

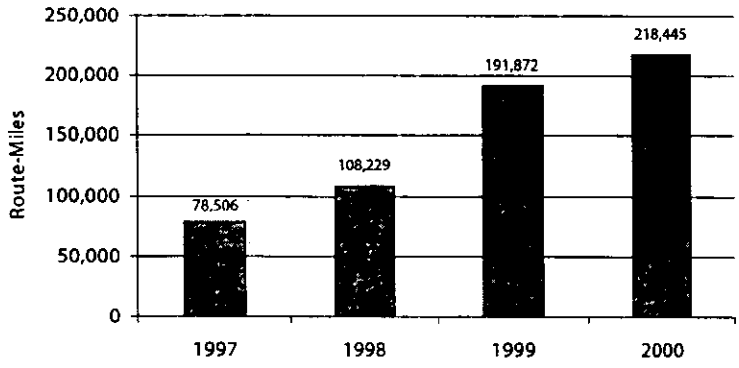


Note: (*) 2000 data through 3Q00.

Source: ALTS, NPRG

One of the most critical measures of competition in the local loop is the number of access lines served by CLECs. With just one million CLEC lines in service in 1996, CLECs now serve over 16 million access lines. This represents over 8% of all access lines in the United States. According to the FCC, CLEC market share in individual states exceeds the national average in Illinois (9%), Iowa (9%), Louisiana (11%), Kansas (16%) and New York (16%). Nationally, because only carriers with more than 10,000 access lines in service must report, the FCC estimates CLEC market share at 6.7% as of 2Q00.

Network Route-Miles

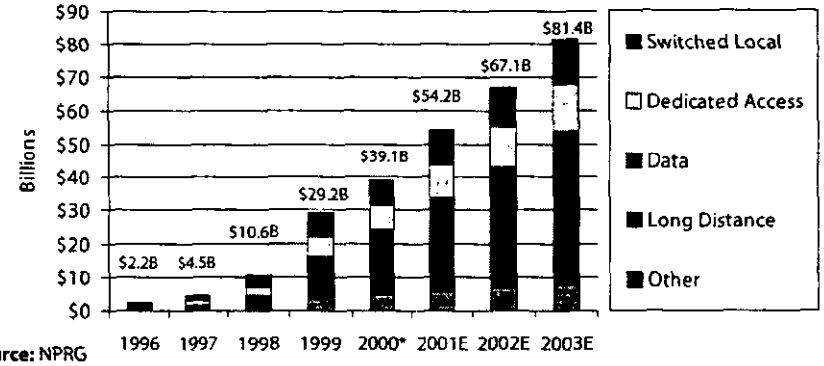


Source: NPRG

To transmit the massive amounts of voice and data traffic generated by consumers, CLECs have been aggressively building out local and long-haul networks. A large portion of the $56 billion in capital expenditures has been invested in erecting such networks. Since 1997, CLECs have almost tripled their route-miles in service. These high-speed, state-of-the-art networks carry the next generation of voice and data traffic.

Companies Building Digital Futures...

Total CLEC Revenue Growth

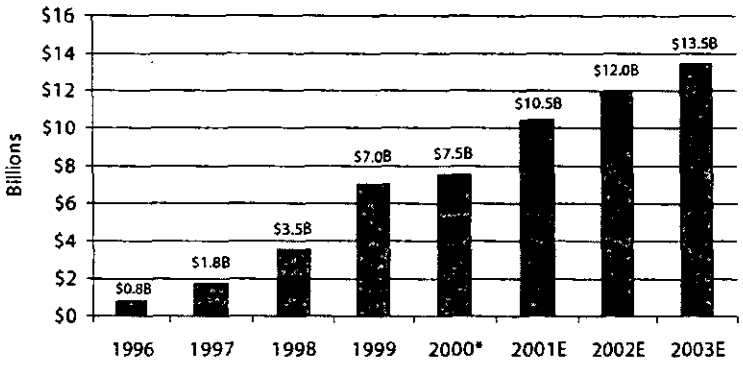


Source: NPRG

Note: (*) 2000 data through 3Q00 with 4Q00 projections. Switched Local Service & Long Distance Service include resale revenues. Data includes all data and data-Related services (e.g. Frame Relay, ATM, DSL, etc.). Other includes miscellaneous revenues (e.g. reciprocal compensation) as well as non-telecom related revenue (e.g., network development).

In 2000, CLECs are expected to report $39.1 billion in revenue, up from $2.2 billion in 1996. While this represents a marked increase over 1999, 2000 will mark the first time in the industry's history that CLECs did not double revenues over the previous year. Analysts predict, however, that as consolidation takes hold and the local market matures, revenues will continue to grow at a rapid, albeit somewhat reduced, rate. Of the various categories of revenue, data services represented the largest and strongest growth area as the demand for high-speed broadband services continues to grow unabated.

Switched Local Access Revenue Growth



Source: NPRG

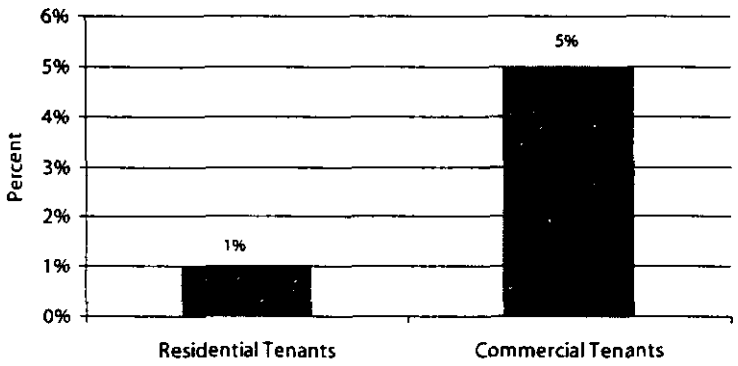
Note(s): (*) 2000 date through 3Q00 with 4Q00 projections. Includes resale revenues.

While CLECs doubled revenues between 1998 and 1999 in switched local access services, this area saw a leveling off in 2000 as uncertainty entered the marketplace. However, analysts expect local access revenues to rebound in 2001.

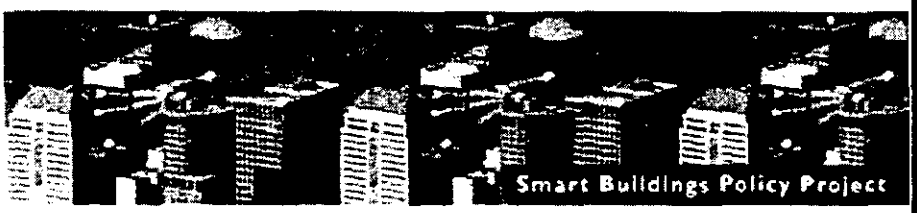
The CLEC Industry:
Building Access

Companies Building Digital Futures...

Multi-Tenant Unit (MTUs) Occupants with Access to Competitive Telecom Services



Source: Smart Buildings Policy Project



The Smart Buildings Policy Project (SBPP) was launched by ALTS on June 21, 2000 by 20 leading telecommunications providers and consumer organizations in an effort to eliminate barriers to building access and promote advanced broadband services to millions of American consumers. The SBPP is committed to insuring reasonable and nondiscriminatory access to rooftops and inside wiring in multi-tenant environments (MTEs). The SBPP believes that the absence of federal rules governing access to MTEs permits building owners to exert considerable control over the development of facilities-based competition. By denying competitive carriers access to the space necessary for the equipment required to provision facilities-based telecommunications and broadband services, building owners violate the letter and the spirit of the Telecommunications Act of 1996.

The SBPP is a growing coalition of telecommunications carriers, equipment manufacturers and trade organizations that includes: Alcatel, the Association for Local Telecommunications Services (ALTS), AT&T, the Commercial Internet eXchange Association (CIX), the Competition Policy Institute (CPI), the Competitive Telecommunications Association (CompTel), Digital Microwave Corporation, Focal Communications, The Harris Corporation, Highspeed.com, the Information Technology Association of America (ITAA), the International Communications Association (ICA), Lucent Technologies, NEXTLINK Communications, Nokia, P-Com, Siemens, the Telecommunications Industry Association (TIA), Teligent, Time Warner Telecom, Winstar Communications, Wireless Communications Association (WCA) and WorldCom.

The SBPP may be found on-line at www.buildingconnections.org.

Sources (sidebar): SBPP; Fortune Magazine

Despite the enormous inroads made by CLECs, building owners often refuse to offer carriers nondiscriminatory access to tenants in MTUs. Despite tenant requests, building owners continue to deny tenants choice in local telecommunications and high-speed Internet access service. With consumers beholden to the wishes of their landlords, millions of consumers stand to miss out on the new technologies being brought to market.

One-third of Americans live in apartment buildings.

The vast majority of small and medium-sized businesses are located in America's 760,000 commercial buildings.

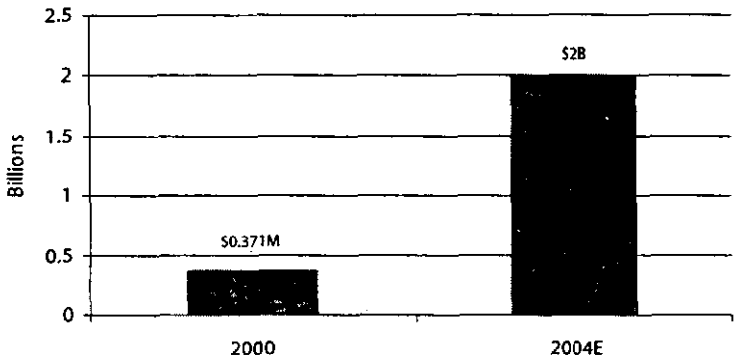
Only 20% of the 6.5 million small businesses in the United States are on-line, whether through a dial-up or broadband connection.

Most wireline competitive local exchange carriers (CLECs) are connected to 10,000 or fewer buildings.

Only 5% percent of commercial tenants, and less than 1% of residential tenants, have access to competitive telecommunications services.

Companies Building Digital Futures...

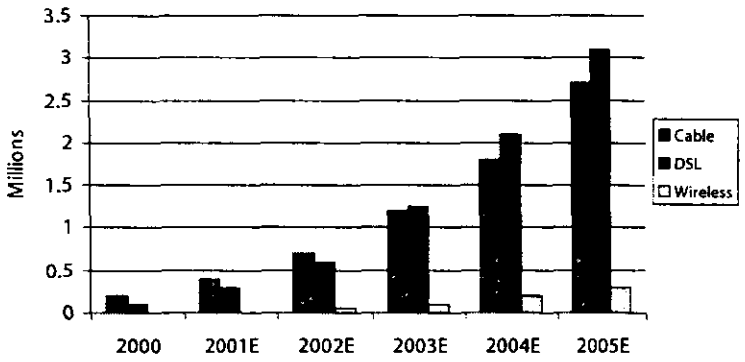
U.S. Multi-Tenant Broadband Equipment Market



Source: Cahners In-Stat Group

With consumers demanding high-speed broadband connections, the multi-tenant broadband equipment market is predicted to grow from just $371 million in 2000 to $2 billion in 2004. However, with the downturn in the CLEC industry, even the equipment suppliers and manufacturers, who rely heavily on CLEC demand, have not escaped the slowdown in 2000. For the 12 months ending 2.15.01, the stock value of Cisco (CSCO) has dropped 51% while the stock value of Lucent (LU) has dropped 73.8%.

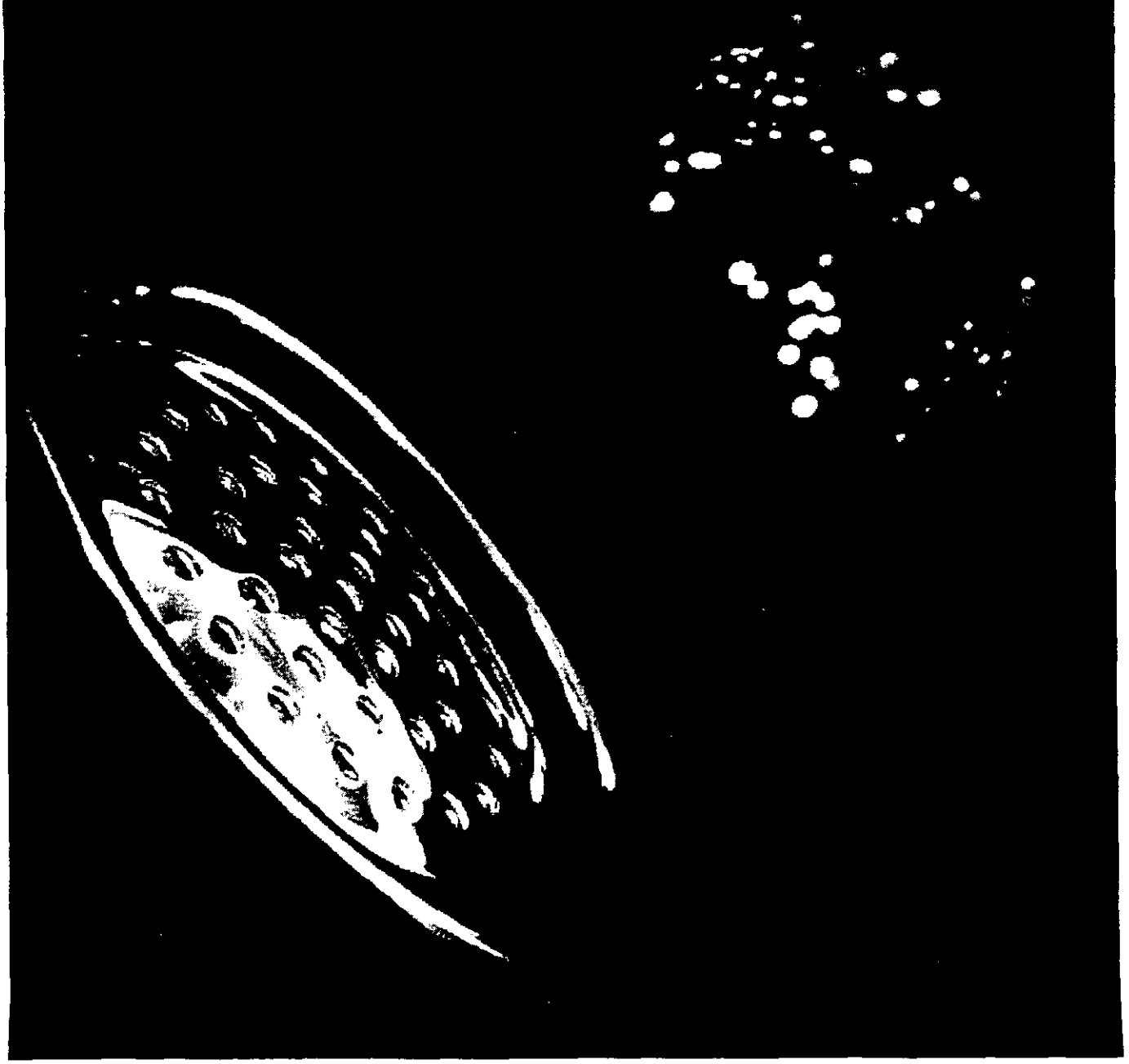
Residential High-Speed Internet Subscribers in MTUs



Source: The Strategis Group

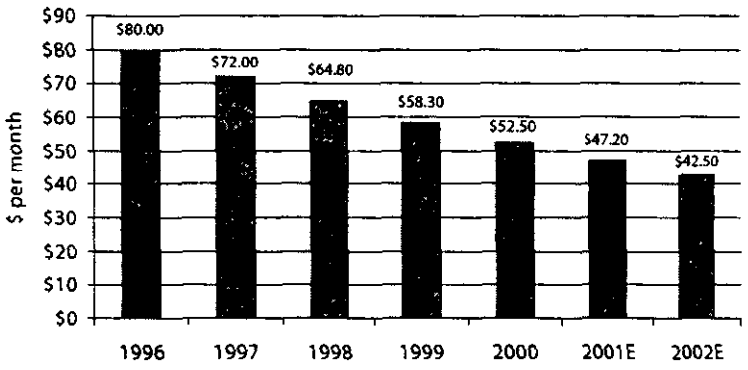
As residents of MTUs demand faster always-on Internet connections, analysts predict that almost 6 million residential consumers will subscribe to such services by 2005. Analysts further predict that, in 2003, DSL will surpass cable as the preferred high-speed service of MTU residents.

The CLEC Industry:
Internet, Broadband & DSL



Companies Building Digital Futures...

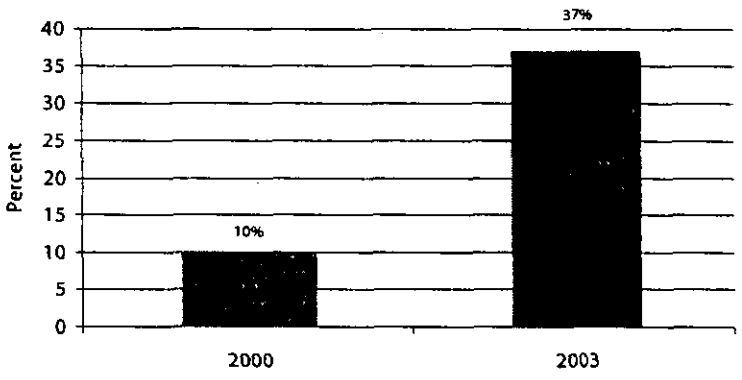
Residential Broadband Pricing



Source: NxGen Data Research

As a result of the tremendous competition in broadband markets, the price of residential broadband access is expected to drop by almost 50% between 1996 and 2002. Without the Act and the emergence of CLECs, it is likely that access to high-speed DSL services would not be available to millions of consumers. In 1999, the Council of Economic Advisers noted that "the incumbent's decision finally to offer DSL service followed closely the emergence of competitive pressures from... the entry of new direct competitors..."

U.S. Households Subscribing to Broadband

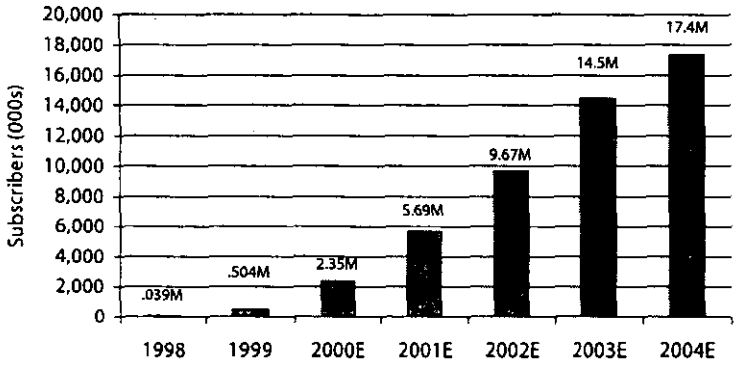


Source: Cisco

With broadband service now available to over half of the nation's consumers, analysts predict that almost 40% of U.S. households will subscribe to broadband services in 2003. As consumers adopt more advanced Internet applications which require greater bandwidth, carriers will rush to meet the insatiable demand for high-speed connectivity.

Companies Building Digital Futures...

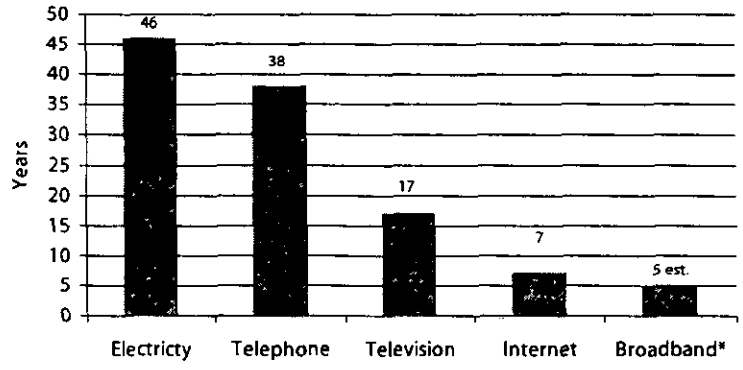
Projected DSL Line Growth



Source: TeleChoice, Cisco

Starting from just 39,000 subscribers in 1998, the DSL market exploded to almost 2.5 million subscribers at year-end 2000. Analysts expect triple-digit growth rates to continue through 2001 and slow to double-digit rates through 2004. DSL is expected to become the preferred technology of choice over cable modem service due to the dedicated nature of the connection and the faster upload speeds.

Years To Achieve 30% Penetration



Note: (*) includes all broadband access (e.g., DSL, cable, etc.)

Source: TeleChoice, Cisco, ALTS

As the country and world move at an increasingly faster pace, so has the adoption of new technologies. It took the United States almost 50 years to achieve 30% penetration for electric service, almost 40 years for telephone service and almost 20 years for television. On the other hand, it has taken only 7 years to achieve such penetration for the Internet and it is estimated that broadband service will achieve a 30% penetration rate in only five years.

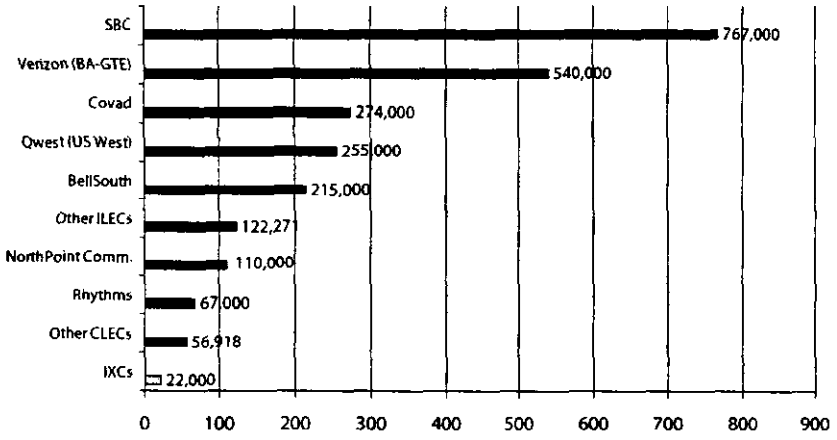
Association for Local Telecommunications Services

ALTS

Companies Building Digital Futures...

State of DSL Competition

4Q00 DSL Subscriber Lines



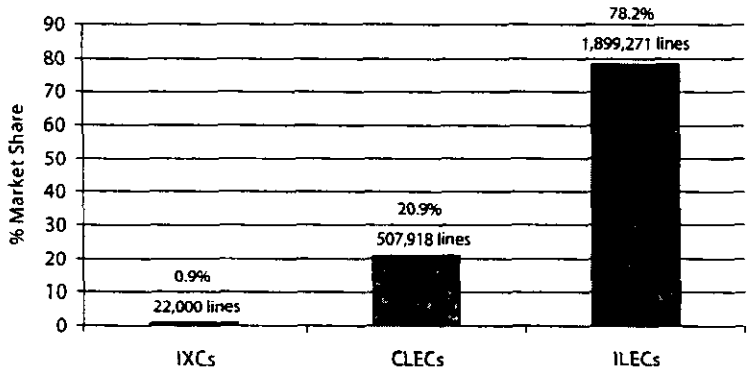
Note: NorthPoint Communications data represents ALTS estimate.

Source: Company Reports; TeleChoice

Total DSL Lines in Service = 2,429,189

DSL Market Share

4Q00 DSL Subscriber Lines



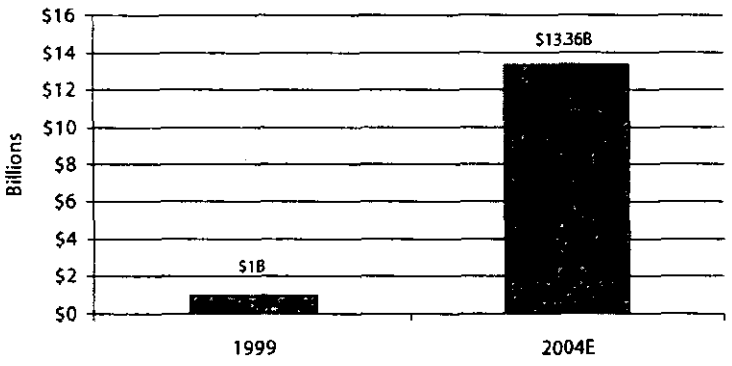
Source: TeleChoice

Through continued mergers, the Bell Companies have greatly increased individual RBOC DSL line counts. SBC (Ameritech, Pac Bell, Nevada Bell, SNET, SWBT), now serves almost 800,000 DSL customers while Verizon (Bell Atlantic, GTE, NYNEX) serves over 500,000 subscribers. Covad, the leading data CLEC (DLEC) ranks third in DSL subscribers with 274,000 as of 4Q00. Covad, NorthPoint Communications and Rhythms are all ALTS members. The recent souring of DLEC equities and the prospects for diminished competition has emboldened some of the Bell Companies, such as SBC to raise its monthly residential DSL rate to $50.

As of the 4Q00, CLECs held 21% of the DSL market, down from 23% as of the 3Q00. The incumbents hold the lion's share of the market with over 78% of DSL subscribers while the long distance companies (IXCs) hold just under 1% of the DSL market.

Companies Building Digital Futures...

Residential Broadband Revenues

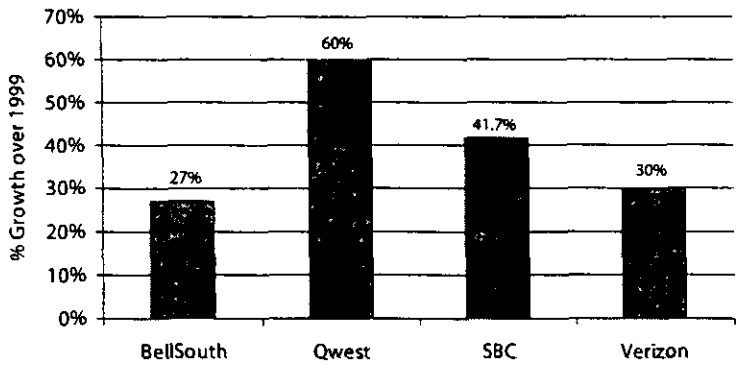


Source: Cahners In-Stat Group

With residences continuing to migrate from dial-up Internet access to broadband, analysts predict an explosion in residential broadband revenues. From only $1 billion in 1999, residential broadband revenues will exceed $13 billion in 2004. This trend represents the increasing reliance Internet users will have on broadband. Within two years, analysts expect a majority of time spent on-line will be over broadband connections as opposed to dial-up connections.

RBOC Data Revenue Growth

Growth Between 1999 & 2000

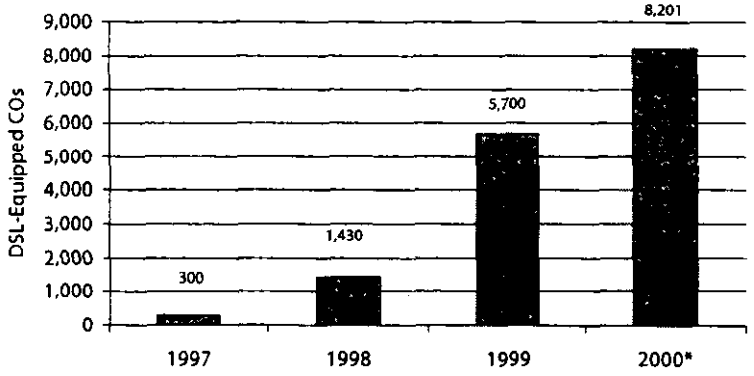


Source: Company Reports

A persistent argument made by the Bell Companies is that they lack the ability to successfully enter the broadband market due to interLATA restrictions. However, in the last year, each of the four RBOCs saw data revenue growth in excess of 25%. The revenue potential in the data market is enormous with analysts noting that the volume of data traffic now exceeds the volume of voice traffic.

Companies Building Digital Futures...

Data CLEC Central Office (CO) Collocations

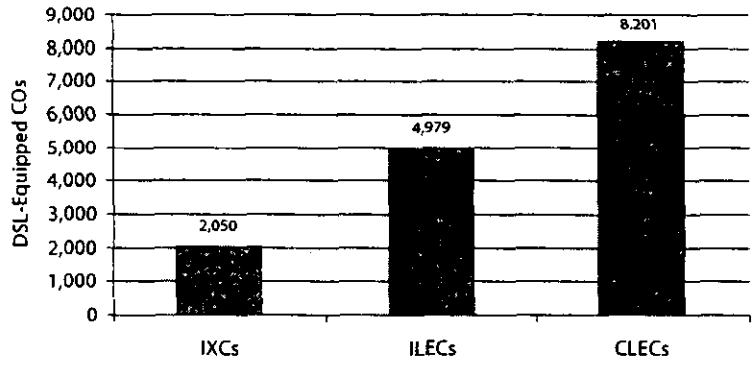


Note(s): (*) 2000 data through 3Q00; data represents pieces of equipment collocated in CO

Source: Company Reports; ALTS; CSFB; TeleChoice

DSL-Equipped Central Offices (COs)

3Q00



Note(s): Data represents pieces of equipment collocated in CO

Source: TeleChoice

Data CLECs specialize in deploying equipment in ILEC central offices that channel enormous amounts of data over the telephone companies' copper wires. From just over 200 central office collocations in 1997, CLECs have now placed over 8,000 pieces of equipment in ILEC central offices. As of the 3Q00, DLECs, with their national deployment plans, led the way in central office collocations.

David A. Wolcott is Director, Public Policy Research for ALTS. In this capacity, Mr. Wolcott conducts industry research to support the CLEC industry on Capitol Hill, before the FCC and in the public policy arena.

Prior to joining ALTS, Mr. Wolcott was a consultant in the international telecommunications industry focusing on the deregulation of international telecom markets. Mr. Wolcott worked with a number of carriers to identify new markets and market entry strategies in the Americas, Asia and Europe. Mr. Wolcott also interacted with the various international policy bodies that oversee international telecommunications policy.

Mr. Wolcott holds a Master of Arts degree in International Trade Policy from George Mason University's (GMU) International Institute in Arlington, Virginia. He earned his Bachelor of Arts degree in International Affairs with a concentration in Economics from James Madison University (JMU) in Harrisonburg, Virginia.

NATIONAL EXCHANGE CARRIER ASSOCIATION TARIFF (NECA No. 4)
Missouri - effective May 1, 2001

CLEC CLLI	Carrier Code	Carrier	Office Codes Converted to Function									
Section 37	Sec 37	Section 8										
STLSMOWQ	3049	Allegiance			FGD							
SPFDMOKC	2870	ALLTEL			FGD							
KSCYMO09	7890	AT&T Local			FGC							
CRVCMOAT	7890	AT&T Local			FGC							
HLBOMO01	7890	AT&T Local			FGC							
SKSTMOAT	7890	AT&T Local			FGC							
SPFDMOMC	7890	AT&T Local			FGC							
SPFDMOTL	7890	AT&T Local				Switched Access Physical Collocation	Switched Access Virtual Collocation	Special Access Virtual Collocation	Route Diversity			
STSLMO09	7890	AT&T Local			FGC							
KSCYMOSW	8665	Birch	FGB	FGD	Switched Access Physical Collocation	Special Access DS1 Transport	Voice Gateway	DS3 & DS1 Capable	Fiber X Connect Hub	Digital Data Service	Fractionalized DS0 & DS1	DS3 Hub
MRHGMO02	8665	Birch	FGB	FGD	Switched Access Physical Collocation	Special Access DS1 Transport	Voice Gateway	DS3 & DS1 Capable	Fiber X Connect Hub	Digital Data Service	Fractionalized DS0 & DS1	DS3 Hub
KSCYMOSW	7594	Brooks			FGD							
SPFDMOPY	7594	Brooks	FGA		FGD							
KSCYMOMC	7589	e-Spire	FGA	FGB	FGD	DS3 Wire Center						
OLVEMO01	4891	Gabriel			FGD							
SPFDMO45	4891	Gabriel			FGD							
STLUMOBN	4004	Global Crossing			FGD							
KSCYMOMC	4004	Global Crossing			FGD							
CHFDMO52	7666	Intermedia			FGD	Switched Access Physical Collocation						
FNTNMO54	7666	Intermedia			FGD	Switched Access Physical Collocation						

NATIONAL EXCHANGE CARRIER ASSOCIATION TARIFF (NECA No. 4)
Missouri - effective May 1, 2001

CLEC CLLI	Carrier Code	Carrier	Office Codes Converted to Function									
Section 37	Sec 37	Section 8										
HVTRMO67	7666	Intermedia			FGD	Switched Access Physical Collocation						
KRWDMO01	7666	Intermedia			FGD	Switched Access Physical Collocation						
MNCHMOBI	7666	Intermedia			FGD	Switched Access Physical Collocation						
STCHMO63	7666	Intermedia			FGD	Switched Access Physical Collocation						
STLSMO21	7666	Intermedia			FGD	Switched Access Physical Collocation						
STLSMO22	7666	Intermedia			FGD	Switched Access Physical Collocation						
STLSMO23	7666	Intermedia			FGD	Switched Access Physical Collocation						
STLSMO26	7666	Intermedia			FGD	Switched Access Physical Collocation						
STLSMO27	7666	Intermedia			FGD	Switched Access Physical Collocation						

NATIONAL EXCHANGE CARRIER ASSOCIATION TARIFF (NECA No. 4)
Missouri - effective May 1, 2001

CLEC CLLI	Carrier Code	Carrier	Office Codes Converted to Function									
Section 37	Sec 37	Section 8										
STLSMO42	7666	Intermedia			FGD	Switched Access Physical Collocation						
STLSMOXT	7666	Intermedia			FGD	Switched Access Physical Collocation						
VYPKMO64	7666	Intermedia			FGD	Switched Access Physical Collocation						
KSCZMODR	4932	Level 3			FGD							
STLSMOPL	4932	Level 3			FGD							
KSCAMO03	4142	Teligent	FGA	FGB	FGD							
STLSMOZC	4142	Teligent	FGB		FGD							
KSCYMOEC	8729	Sprint CLEC			FGD							
SPFDMOTL	8729	Sprint CLEC			FGD							
STLSMO05	8729	Sprint CLEC			FGD							
STJSMODN	8279	Sprint CLEC			FGD							
CRVCMOGM	7218	Teleport				Switched Access Physical & Virtual Collocation	Special Access Physical Collocation	Route Diversity				
KSCYMOSW	7211	Winstar	FGA	FGB	FGD	Switched Access Physical Collocation	Special Access Physical Collocation	Special DS1 Transport	NRS	TRM Service	Route Diversity	
CRVCMOEX	8508	Winstar	FGA	FGB	FGD	Switched Access Physical Collocation	Special Access Physical Collocation	Special DS1 Transport	NRS	TRM Service	Route Diversity	
STLSMOBO	7432	WorldCom		FGB	FGD							
MRHGMOGY	4774	XO		FGB	FGD	DS3 Capable						

Non Proprietary

Schedule 6

Non Proprietary

NPA/NXX	Carrier	Carrier CLLI Non Proprietary **	SWBT Rate Center Non Proprietary **	SWBT Exchange Local Exchange Tariff Section 1.5	SWBT MCA Local Exchange Tariff Section 1.5
816/693	Adelphia			Kansas City	Kansas City
816/543	AT&T Local			Kansas City	Kansas City
816/600	AT&T Local			Kansas City	Kansas City
816/728	AT&T Wireless			Kansas City	Kansas City
816/273	AT&T Wireless			Belton	Kansas City
816/376	AT&T Wireless			Blue Springs	Kansas City
816/839	AT&T Wireless			Kansas City	Kansas City
816/388	Birch			Belton	Kansas City
816/463	Birch			Blue Springs	Kansas City
816/300	Birch			Kansas City	Kansas City
816/282	Birch			Kansas City	Kansas City
816/479	Birch			Kansas City	Kansas City
816/410	Brooks			Kansas City	Kansas City
816/868	Cellular One			Kansas City	Kansas City
816/581	e-Spire			Kansas City	Kansas City
816/222	e-Spire			Kansas City	Kansas City
816/268	Everest Comm			Kansas City	Kansas City
816/892	Gabriel			Belton	Kansas City
816/874	Gabriel			Blue Springs	Kansas City
816/875	Gabriel			Kansas City	Kansas City
816/883	Gabriel			Kansas City	Kansas City
816/265	Global Crossing			Belton	Kansas City
816/295	Global Crossing			Blue Springs	Kansas City
816/278	Global Crossing			Kansas City	Kansas City
816/272	Global Crossing			Kansas City	Kansas City
816/366	Global Crossing			Kansas City	Kansas City
816/289	KC SMSA LLC			Kansas City	Kansas City
816/653	KMC Telecom III			Kansas City	Kansas City
816/256	Level 3			Kansas City	Kansas City
816/485	McLeod			Blue Springs	Kansas City
816/684	McLeod			Kansas City	Kansas City
816/692	McLeod			Kansas City	Kansas City
816/798	Metrocall			Kansas City	Kansas City
816/771	Mobile Radio Comm			Kansas City	Kansas City
816/564	Nextel			Kansas City	Kansas City
816/621	Primary Network			Kansas City	Kansas City
816/594	Sprint CLEC			Belton	Kansas City
816/598	Sprint CLEC			Blue Springs	Kansas City
816/837	Sprint CLEC			Kansas City	Kansas City
816/736	Sprint CLEC			Kansas City	Kansas City
816/645	Sprint Spectrum			Kansas City	Kansas City
816/425	TCG Kansas City			Belton	Kansas City
816/427	TCG Kansas City			Blue Springs	Kansas City
816/399	TCG Kansas City			Kansas City	Kansas City
816/434	TCG Kansas City			Kansas City	Kansas City
816/429	TCG Kansas City			Kansas City	Kansas City
816/377	Teligent			Kansas City	Kansas City
816/825	AT&T Wireless			Greenwood	Kansas City Optional
816/733	Gabriel			Farley	Kansas City Optional
816/867	Gabriel			Grain Valley	Kansas City Optional
816/744	Gabriel			Greenwood	Kansas City Optional
816/866	Gabriel			Smithville	Kansas City Optional
816/354	Global Crossing			Farley	Kansas City Optional
816/355	Global Crossing			Grain Valley	Kansas City Optional
816/343	Global Crossing			Smithville	Kansas City Optional
816/826	Nextel			Excelsior Springs	Kansas City Optional
816/397	Primary Network			Farley	Kansas City Optional
816/638	Teligent			Farley	Kansas City Optional

Non Proprietary

NPA/NXX	Carrier	Carrier CLLI Non Proprietary **	SWBT Rate Center Non Proprietary **	SWBT Exchange Local Exchange Tariff Section 1.5	SWBT MCA Local Exchange Tariff Section 1.5
816/693	Adelphia			Kansas City	Kansas City
816/543	AT&T Local			Kansas City	Kansas City
816/600	AT&T Local			Kansas City	Kansas City
816/617	Aerial Comm			St. Joseph	n/a
660/229	Aerial Comm			Marshall	n/a
660/221	Aerial Comm			Sedalia	n/a
543/745	ALLTEL Mobile			Lake Ozark	n/a
573/712	AT&T Local			Poplar Bluff	n/a
417/437	AT&T Wireless			Joplin	n/a
816/351	Cellular One			St. Joseph	n/a
660/247	Dobson Cellular			Chillicothe	n/a
660/734	Dobson Cellular			Brookfield	n/a
660/329	Dobson Cellular			Carrollton	n/a
660/635	Dobson Cellular			Trenton	n/a
660/537	KC SMSA LLC			Boonville	n/a
660/815	KC SMSA LLC			Marshall	n/a
816/281	KC SMSA LLC			Sedalia	n/a
417/793	KC SMSA LLC			Carthage	n/a
417/529	KC SMSA LLC			Joplin	n/a
417/489	KC SMSA LLC			Monett	n/a
417/592	KC SMSA LLC			Neosho	n/a
417/684	KC SMSA LLC			Nevada	n/a
816/752	KC SMSA LLC			St. Joseph	n/a
573/519	KMC Telecom III			Cape Girardeau	n/a
417/636	KMC Telecom III			Joplin	n/a
417/385	KMC Telecom III			Joplin	n/a
573/843	KMC Telecom III			Mexico	n/a
573/652	KMC Telecom III			Sikeston	n/a
816/385	KMC Telecom III			St. Joseph	n/a
417/526	Missouri Telecom			Carthage	n/a
417/726	Missouri Telecom			Joplin	n/a
417/279	Missouri Telecom			Lamar	n/a
417/635	Missouri Telecom			Monett	n/a
417/454	Missouri Telecom			Neosho	n/a
417/381	Missouri Telecom			Nevada	n/a
417/768	Nextel			Joplin	n/a
573/216	Nextel			Lake Ozark	n/a
573/741	Omniplex			Cape Girardeau	n/a
417/675	Sprint CLEC			Joplin	n/a
816/689	Sprint CLEC			St. Joseph	n/a
573/587	Sprint Spectrum			Cape Girardeau	n/a
573/872	Sprint Spectrum			Poplar Bluff	n/a
573/931	Sprint Spectrum			Sikeston	n/a
573/434	Sprint Spectrum			Lake Ozark	n/a
417/483	Sprint Spectrum			Joplin	n/a
816/294	Sprint Spectrum			St. Joseph	n/a
573/310	Sprint Spectrum			Fulton	n/a
573/795	Sprint Spectrum			Hannibal	n/a
660/349	Sprint Spectrum			Kirksville	n/a
660/473	Sprint Spectrum			Sedalia	n/a
816/827	TCG Kansas City			Adrian	n/a
660/303	TCG Kansas City			Knobnoster	n/a
573/381	Telecorp Comm			Cape Girardeau	n/a
573/922	Telecorp Comm			Caruthersville	n/a
573/427	Telecorp Comm			Charleston	n/a
573/521	Telecorp Comm			New Madrid	n/a
573/569	Telecorp Comm			Perryville	n/a
573/258	Telecorp Comm			Sikeston	n/a

Non Proprietary

NPA/NXX	Carrier	Carrier CLLI Non Proprietary **	SWBT Rate Center Non Proprietary **	SWBT Exchange Local Exchange Tariff Section 1.5	SWBT MCA Local Exchange Tariff Section 1.5
816/693	Adelphia			Kansas City	Kansas City
816/543	AT&T Local			Kansas City	Kansas City
816/600	AT&T Local			Kansas City	Kansas City
573/836	Telecorp Comm			Camdenton	n/a
573/826	Telecorp Comm			Fulton	n/a
573/692	Telecorp Comm			Lake Ozark	n/a
573/470	United States Cellular			Bowling Green	n/a
417/356	United States Cellular			Carthage	n/a
573/375	United States Cellular			Eldon	n/a
573/315	United States Cellular			Flat River	n/a
573/822	United States Cellular			Hannibal	n/a
417/438	United States Cellular			Joplin	n/a
660/216	United States Cellular			Kirksville	n/a
660/651	United States Cellular			Moberly	n/a
573/721	United States Cellular			Mexico	n/a
417/355	United States Cellular			Neosho	n/a
573/880	United States Cellular			Ste. Genevieve	n/a
573/789	United States Cellular			Versailles	n/a
417/321	Western Wireless			Nevada	n/a
417/481	Adelphia			Springfield	Springfield
417/655	ALLTEL			Springfield	Springfield
417/576	AT&T Local			Springfield	Springfield
417/616	AT&T Local			Springfield	Springfield
417/693	AT&T Wireless			Springfield	Springfield
417/774	Atlas Mobilefone			Springfield	Springfield
417/522	Brooks			Springfield	Springfield
417/523	Brooks			Springfield	Springfield
417/323	Gabriel			Ash Grove	Springfield
417/289	Gabriel			Billings	Springfield
417/221	Gabriel			Clever	Springfield
417/567	Gabriel			Springfield	Springfield
417/242	Gabriel			Marionville	Springfield
417/449	Gabriel			Springfield	Springfield
417/735	Gabriel			Springfield	Springfield
417/929	Gabriel			Springfield	Springfield
417/447	Gabriel			Springfield	Springfield
417/879	Gabriel			Springfield	Springfield
417/367	Gabriel			Walnut Grove	Springfield
417/685	Gabriel			Springfield	Springfield
417/343	KC SMSA LLC			Springfield	Springfield
417/923	KMC Telecom III			Springfield	Springfield
417/799	McLeod			Springfield	Springfield
417/633	Metrocall			Springfield	Springfield
417/851	Missouri Telecom			Springfield	Springfield
417/353	Nextel			Springfield	Springfield
417/397	Sprint CLEC			Springfield	Springfield
417/894	Sprint Spectrum			Springfield	Springfield
417/287	Teletouch Comm			Springfield	Springfield
314/786	Allegiance			St. Louis	St. Louis
314/856	Allegiance			St. Louis	St. Louis
314/785	Allegiance			St. Louis	St. Louis
314/815	Allegiance			St. Louis	St. Louis
314/334	Allegiance			St. Louis	St. Louis
314/472	Allegiance			St. Louis	St. Louis
314/783	Allegiance			St. Louis	St. Louis
314/620	AT&T Local			St. Louis	St. Louis
314/292	AT&T Local			St. Louis	St. Louis
314/548	AT&T Local			St. Louis	St. Louis

Non Proprietary

NPA/NXX	Carrier	Carrier CLLI Non Proprietary	SWBT Rate Center Non Proprietary	SWBT Exchange Local Exchange Tariff Section 1.5	SWBT MCA Local Exchange Tariff Section 1.5
		**	**		
816/693	Adelphia			Kansas City	Kansas City
816/543	AT&T Local			Kansas City	Kansas City
816/600	AT&T Local			Kansas City	Kansas City
314/450	AT&T Local			St. Louis	St. Louis
314/378	AT&T Wireless			St. Louis	St. Louis
314/614	AT&T Wireless			St. Louis	St. Louis
314/744	Birch			St. Louis	St. Louis
314/315	Birch			St. Louis	St. Louis
314/774	Birch			St. Louis	St. Louis
314/329	Birch			St. Louis	St. Louis
314/380	Birch			St. Louis	St. Louis
314/756	Birch			St. Louis	St. Louis
314/333	Birch			St. Louis	St. Louis
314/979	Connect			St. Louis	St. Louis
314/884	Digital Teleport			St. Louis	St. Louis
314/336	Gabriel			St. Louis	St. Louis
314/775	Gabriel			St. Louis	St. Louis
314/743	Gabriel			St. Louis	St. Louis
314/714	Gabriel			St. Louis	St. Louis
314/375	Gabriel			St. Louis	St. Louis
314/722	Gabriel			St. Louis	St. Louis
314/446	Gabriel			St. Louis	St. Louis
314/594	Global Crossing			St. Louis	St. Louis
314/596	Global Crossing			St. Louis	St. Louis
314/598	Global Crossing			St. Louis	St. Louis
314/675	Global Crossing			St. Louis	St. Louis
314/549	Global Crossing			St. Louis	St. Louis
314/635	Global Crossing			St. Louis	St. Louis
314/558	Global Crossing			St. Louis	St. Louis
314/471	Intermedia			St. Louis	St. Louis
314/782	Intermedia			St. Louis	St. Louis
314/272	Intermedia			St. Louis	St. Louis
314/392	Intermedia			St. Louis	St. Louis
314/387	Intermedia			St. Louis	St. Louis
314/236	Intermedia			St. Louis	St. Louis
314/723	KMC Telecom III			St. Louis	St. Louis
314/667	Level 3			St. Louis	St. Louis
314/238	McLeod			St. Louis	St. Louis
314/447	McLeod			St. Louis	St. Louis
314/449	McLeod			St. Louis	St. Louis
314/478	McLeod			St. Louis	St. Louis
314/248	McLeod			St. Louis	St. Louis
314/678	McLeod			St. Louis	St. Louis
314/751	Metrocall			St. Louis	St. Louis
314/617	Metrotel			St. Louis	St. Louis
314/568	Nextel			St. Louis	St. Louis
314/267	Nextel			St. Louis	St. Louis
314/745	Omniplex			St. Louis	St. Louis
314/455	Omniplex			St. Louis	St. Louis
314/475	Omniplex			St. Louis	St. Louis
314/225	Omniplex			St. Louis	St. Louis
314/825	Omniplex			St. Louis	St. Louis
314/282	Omniplex			St. Louis	St. Louis
314/474	Omniplex			St. Louis	St. Louis
314/445	Primary Network			St. Louis	St. Louis
314/698	Primary Network			St. Louis	St. Louis
314/373	Primary Network			St. Louis	St. Louis
314/221	Primary Network			St. Louis	St. Louis

Non Proprietary

NPA/NXX	Carrier	Carrier CLLI Non Proprietary	SWBT Rate Center Non Proprietary	SWBT Exchange Local Exchange Tariff Section 1.5	SWBT MCA Local Exchange Tariff Section 1.5
816/693	Adelphia			Kansas City	Kansas City
816/543	AT&T Local			Kansas City	Kansas City
816/600	AT&T Local			Kansas City	Kansas City
314/408	Source One Wireless			St. Louis	St. Louis
314/639	Sprint CLEC			St. Louis	St. Louis
314/274	Sprint CLEC			St. Louis	St. Louis
314/357	Sprint CLEC			St. Louis	St. Louis
314/451	Sprint CLEC			St. Louis	St. Louis
314/556	Sprint CLEC			St. Louis	St. Louis
314/728	Sprint CLEC			St. Louis	St. Louis
314/226	Sprint CLEC			St. Louis	St. Louis
314/858	St. Louis Electronics			St. Louis	St. Louis
314/682	Teleport			St. Louis	St. Louis
314/288	Teleport			St. Louis	St. Louis
314/824	Teleport			St. Louis	St. Louis
314/649	Teleport			St. Louis	St. Louis
314/690	Teleport			St. Louis	St. Louis
314/655	Teleport			St. Louis	St. Louis
314/485	Teligent			St. Louis	St. Louis
314/488	Teligent			St. Louis	St. Louis
314/266	Teligent			St. Louis	St. Louis
314/766	Teligent			St. Louis	St. Louis
314/834	TSR Wireless			St. Louis	St. Louis
314/397	Voicestream Wireless			St. Louis	St. Louis
314/583	Voicestream Wireless			St. Louis	St. Louis
314/720	Winstar			St. Louis	St. Louis
314/527	Winstar			St. Louis	St. Louis
314/269	Winstar			St. Louis	St. Louis
314/819	WorldCom			St. Louis	St. Louis
314/800	WorldCom			St. Louis	St. Louis
314/813	WorldCom			St. Louis	St. Louis
314/885	WorldCom			St. Louis	St. Louis
314/748	WorldCom			St. Louis	St. Louis
314/898	WorldCom			St. Louis	St. Louis
314/985	XO			St. Louis	St. Louis
314/779	XO			St. Louis	St. Louis
314/228	XO			St. Louis	St. Louis
314/433	XO			St. Louis	St. Louis
314/431	XO			St. Louis	St. Louis
314/754	XO			St. Louis	St. Louis
636/787	Allegiance			Chesterfield	St. Louis Optional
636/557	Allegiance			Manchester	St. Louis Optional
636/573	Allegiance			St. Charles	St. Louis Optional
636/299	AT&T Local			Chesterfield	St. Louis Optional
636/649	AT&T Local			St. Charles	St. Louis Optional
636/795	AT&T Wireless			St. Charles	St. Louis Optional
636/777	Birch			Chesterfield	St. Louis Optional
636/600	Birch			Fenton	St. Louis Optional
636/500	Birch			Imperial	St. Louis Optional
636/200	Birch			Manchester	St. Louis Optional
636/333	Birch			Maxville	St. Louis Optional
636/400	Birch			Portage Des Sioux	St. Louis Optional
636/699	Birch			St. Charles	St. Louis Optional
636/444	Birch			Valley Park	St. Louis Optional
636/674	Gabriel			Antonio	St. Louis Optional
636/449	Gabriel			Chesterfield	St. Louis Optional
636/549	Gabriel			Eureka	St. Louis Optional
636/680	Gabriel			Fenton	St. Louis Optional

Non Proprietary

NPA/NXX	Carrier	Carrier CLLI Non Proprietary	SWBT Rate Center Non Proprietary	SWBT Exchange Local Exchange Tariff Section 1.5	SWBT MCA Local Exchange Tariff Section 1.5
		**	**		
816/693	Adelphia			Kansas City	Kansas City
816/543	AT&T Local			Kansas City	Kansas City
816/600	AT&T Local			Kansas City	Kansas City
636/720	Gabriel			Harvester	St. Louis Optional
636/224	Gabriel			Herculaneum-Pevely	St. Louis Optional
636/692	Gabriel			High Ridge	St. Louis Optional
636/741	Gabriel			Imperial	St. Louis Optional
636/779	Gabriel			Manchester	St. Louis Optional
636/321	Gabriel			Maxville	St. Louis Optional
636/821	Gabriel			Pond	St. Louis Optional
636/425	Gabriel			Portage Des Sioux	St. Louis Optional
636/757	Gabriel			St. Charles	St. Louis Optional
636/923	Gabriel			Valley Park	St. Louis Optional
636/590	Global Crossing			Chesterfield	St. Louis Optional
636/678	Global Crossing			Fenton	St. Louis Optional
636/547	Global Crossing			Imperial	St. Louis Optional
636/628	Global Crossing			Manchester	St. Louis Optional
636/548	Global Crossing			Maxville	St. Louis Optional
636/648	Global Crossing			Portage Des Sioux	St. Louis Optional
636/634	Global Crossing			St. Charles	St. Louis Optional
636/556	Global Crossing			Valley Park	St. Louis Optional
636/237	Intermedia			Chesterfield	St. Louis Optional
636/203	Intermedia			Fenton	St. Louis Optional
636/229	Intermedia			Harvester	St. Louis Optional
636/599	Intermedia			Manchester	St. Louis Optional
636/431	Intermedia			Valley Park	St. Louis Optional
636/764	Level 3			Fenton	St. Louis Optional
636/642	Level 3			Imperial	St. Louis Optional
636/552	Level 3			Manchester	St. Louis Optional
636/352	Level 3			St. Charles	St. Louis Optional
636/812	McLeod			Chesterfield	St. Louis Optional
636/554	McLeod			Fenton	St. Louis Optional
636/336	McLeod			Harvester	St. Louis Optional
636/591	McLeod			Manchester	St. Louis Optional
636/669	McLeod			St. Charles	St. Louis Optional
636/592	McLeod			Valley Park	St. Louis Optional
636/262	Nextel			Chesterfield	St. Louis Optional
636/470	Omniplex			Chesterfield	St. Louis Optional
636/852	Omniplex			Harvester	St. Louis Optional
636/714	Sprint CLEC			Chesterfield	St. Louis Optional
636/588	Sprint CLEC			Fenton	St. Louis Optional
636/618	Sprint CLEC			Harvester	St. Louis Optional
636/691	Sprint CLEC			High Ridge	St. Louis Optional
636/491	Sprint CLEC			Manchester	St. Louis Optional
636/354	Sprint CLEC			Maxville	St. Louis Optional
636/762	Sprint CLEC			St. Charles	St. Louis Optional
636/783	Sprint CLEC			Valley Park	St. Louis Optional
636/858	St. Louis Electronics			Harvester	St. Louis Optional
636/858	St. Louis Electronics			Chesterfield	St. Louis Optional
636/681	Teleport			Chesterfield	St. Louis Optional
636/651	Teleport			Fenton	St. Louis Optional
636/685	Teleport			Harvester	St. Louis Optional
636/688	Teleport			St. Charles	St. Louis Optional
636/689	Teleport			Valley Park	St. Louis Optional
636/489	Teligent			Chesterfield	St. Louis Optional
636/682	TSR Wireless			Festus - Crystal City	St. Louis Optional
636/701	TSR Wireless			Manchester	St. Louis Optional
636/363	TSR Wireless			Maxville	St. Louis Optional

Non Proprietary

NPA/NXX	Carrier	Carrier CLLI Non Proprietary **	SWBT Rate Center Non Proprietary **	SWBT Exchange Local Exchange Tariff Section 1.5	SWBT MCA Local Exchange Tariff Section 1.5
816/693	Adelphia			Kansas City	Kansas City
816/543	AT&T Local			Kansas City	Kansas City
816/600	AT&T Local			Kansas City	Kansas City
636/347	TSR Wireless			St. Charles	St. Louis Optional
636/579	Voicestream Wireless			Chesterfield	St. Louis Optional
636/219	Voicestream Wireless			St. Charles	St. Louis Optional
636/292	Winstar			Chesterfield	St. Louis Optional
636/893	WorldCom			Manchester	St. Louis Optional
636/898	XO			Chesterfield	St. Louis Optional
636/533	XO			Fenton	St. Louis Optional
636/794	XO			Harvester	St. Louis Optional
636/594	XO			Manchester	St. Louis Optional
636/410	XO			St. Charles	St. Louis Optional
636/412	XO			Valley Park	St. Louis Optional

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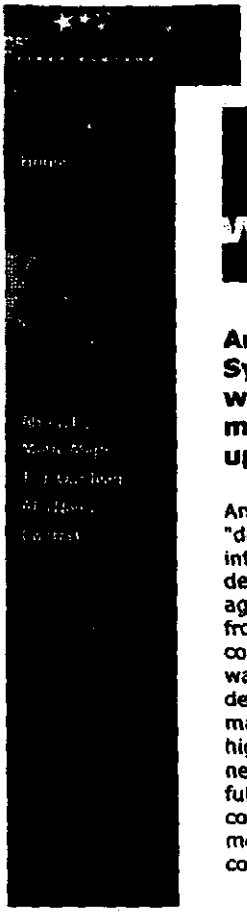


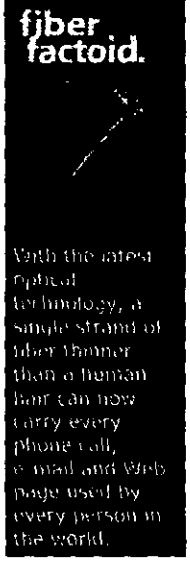
American Fiber Systems is the fastest way to get your metropolitan networks up to speed.

American Fiber Systems is a "dark" fiber metropolitan infrastructure provider, dedicated to enabling aggressive companies to profit from the burgeoning communications market without waiting years to do it. We design, build, lease and maintain high-capacity, high-bandwidth dark fiber-optic networks, constructed on full-spectrum fiber and completely connected to a city's most important points of communications presence: ILEC and CLEC central offices; ISP and ASP facilities; Interexchange "carrier hotels;" Wireless providers and cable company head ends, and Fortune 1000 companies.

Our sophisticated FreedomRing™ networks, with built-in redundancy for total reliability, provide maximum high-capacity service coverage in high-density business districts. You can lease exactly the capacity you need on a strand-by-strand basis at a fixed price. What's more, we will never compete with you. As your strategic partner, our only mission is to enable your success as quickly and efficiently as possible.

Professional Services

AFS also offers a wide range of Professional Services designed to help our customers light, operate, monitor and maintain our dark-fiber networks.



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