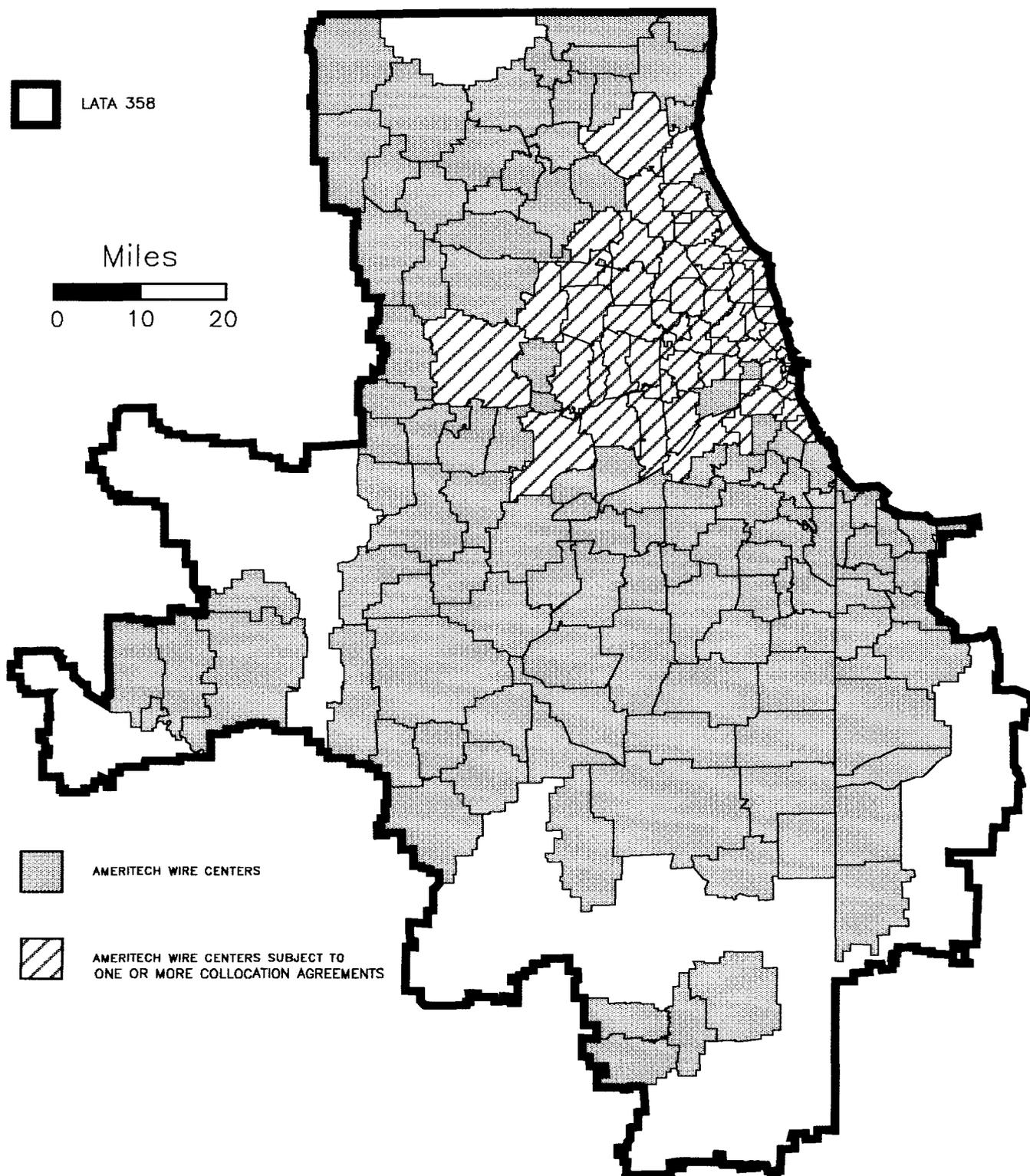


Exhibit 2:

**Ameritech Wire Center Service Areas
Subject To Operational Collocation
In Chicago LATA 358**

**EXHIBIT 2: AMERITECH WIRE CENTER SERVICE AREAS
SUBJECT TO OPERATIONAL COLLOCATION IN CHICAGO LATA 358**



SOURCE: DATA PROVIDED BY AMERITECH

COLLOC2A

Exhibit 3:

**AT&T And MCI WorldCom
Fiber-Optic Backbone Networks**

EXHIBIT 3: AT&T AND MCI WORLDCOM FIBER-OPTIC BACKBONE NETWORKS

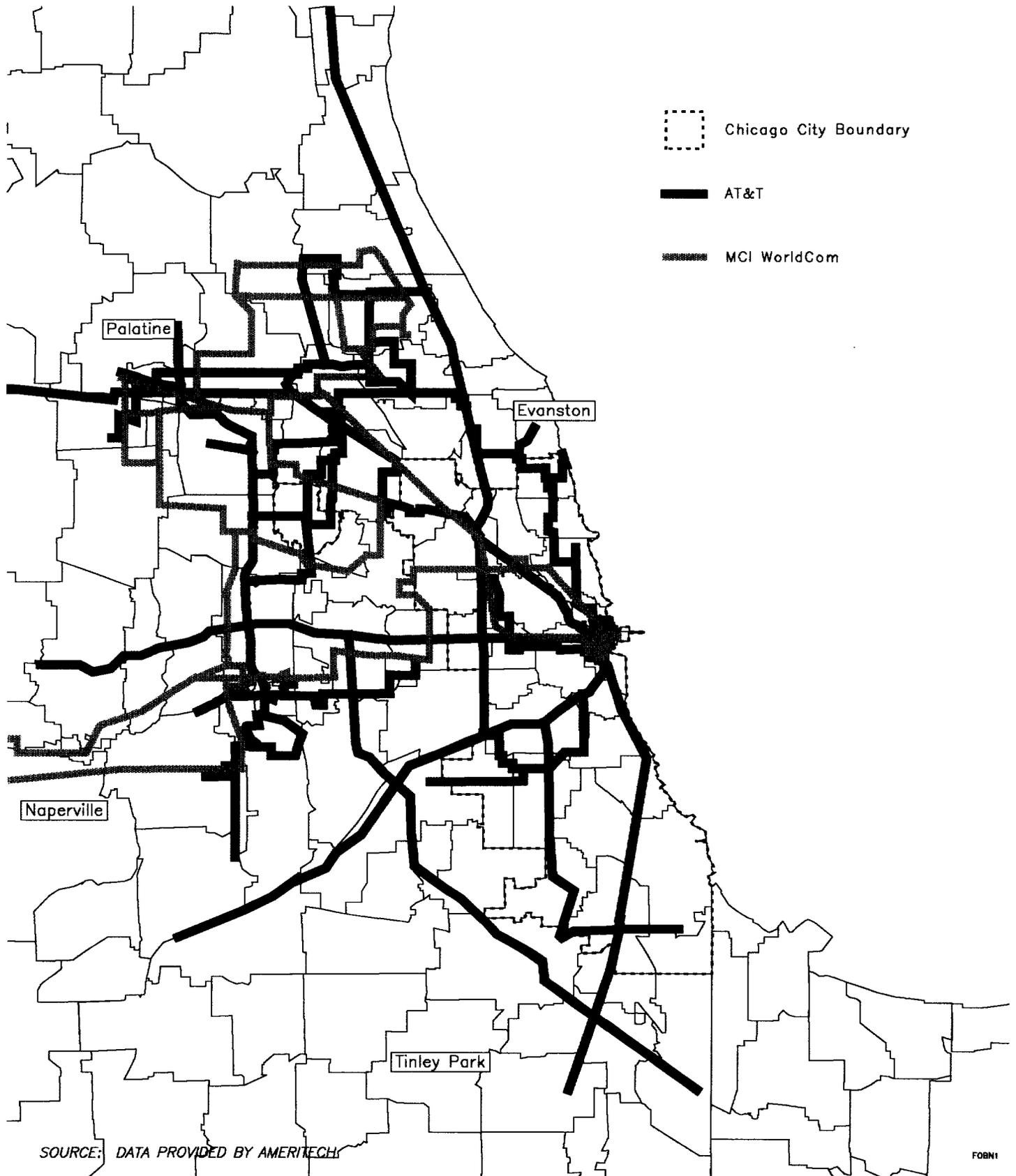
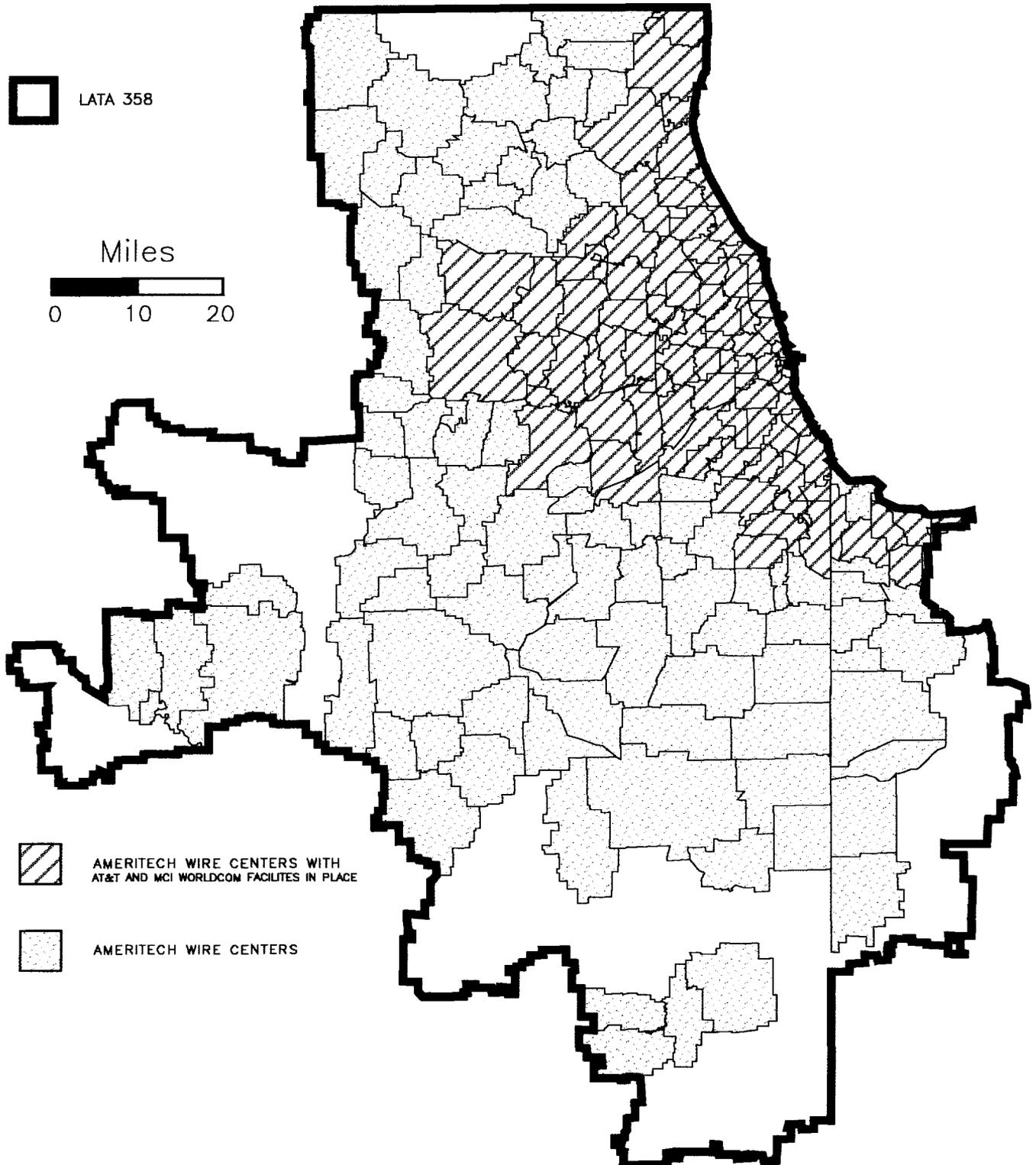


Exhibit 4:

**Ameritech Wire Center Service Areas
Subject To AT&T Or MCI WorldCom Facilities
In Chicago LATA 358**

EXHIBIT 4: AMERITECH WIRE CENTER SERVICE AREAS SUBJECT TO AT&T OR MCI WORLDCOM FACILITES IN CHICAGO LATA 358



SOURCE: DATA PROVIDED BY AMERITECH

Exhibit 5:

**Ameritech CAP/CLEC
Chicago Network Descriptions, 3Q98**

AMERITECH
CAP/CLEC CHICAGO NETWORK
DESCRIPTIONS
THIRD QUARTER, 1998

December 21, 1998

 **QUALITY STRATEGIES®**
WASHINGTON, D.C.

TABLE OF CONTENTS

OBJECTIVE	1
<i>Review of Competitive Presence and Activity.....</i>	<i>1</i>
<i>Network Activity.....</i>	<i>1</i>
<i>Regulatory Support.....</i>	<i>1</i>
METHODOLOGY	2
<i>MCI WorldCom Chicago.....</i>	<i>3</i>
<i>AT&T Local Services Chicago.....</i>	<i>20</i>
<i>WinStar Chicago.....</i>	<i>32</i>
<i>NextLink Chicago.....</i>	<i>40</i>
<i>Teligent Chicago.....</i>	<i>42</i>
<i>Allegiance Chicago.....</i>	<i>45</i>
APPENDIX	47
<i>CAP/CLEC Switches.....</i>	<i>47</i>

OBJECTIVE

CAP/CLEC Chicago Network Descriptions provides detailed descriptions of CAP and CLEC networks operating in the Chicago metropolitan area. The following are components of *CAP/CLEC Chicago Network Descriptions*:

- Network architecture
- Fiber specifications
- Network expansion plans
- Targeted buildings
- Network electronics and infrastructure
- Network maps
- On-net buildings

There is a separate section for each CAP/CLEC operating a network in the specified city. The following metro was selected for analysis:

- Chicago, Illinois

CAP/CLEC Chicago Network Descriptions provides data and analysis for the following purposes:

REVIEW OF COMPETITIVE PRESENCE AND ACTIVITY

This analysis identifies CAPs/CLECs operating in the Chicago metropolitan area and tracks expansion activities. CAP/CLEC expansion activities provide information regarding intentions to target new geographic areas, light additional buildings, and deploy additional network equipment.

NETWORK ACTIVITY

Network maps and building lists provide information that is useful for prioritizing Ameritech's network resource allocation activities.

REGULATORY SUPPORT

Network maps and building lists demonstrate the extent to which competition has penetrated certain Ameritech geographic areas.

METHODOLOGY

CAP/CLEC Chicago Network Descriptions is based on information from a variety of sources, including the following:

Interviews with the following CAP/CLEC personnel:

- Account executives
- Sales representatives
- Regional account managers
- Network technicians
- Marketing personnel
- Investor relations personnel

Interviews with IXC officials, including the following positions:

- National account personnel
- Sales representatives
- Engineers

Interviews with officials from the following regulatory bodies:

- State Public Utility Commissions
- Federal Communications Commission

Other sources of information:

- CAP/CLEC promotional materials
- QUALITY STRATEGIES national CAP/CLEC database
- Customer invoice data

MCI WORLD COM CHICAGO

NETWORK ARCHITECTURE

By combining the former MFS WorldCom and MCI Metro networks, MCI WorldCom now operates a 225 route mile fiber network in the greater Chicago area capable of serving customers in the city and in nearby suburbs. The network was designed and built according to SONET ring architecture and features the following attributes:

- Backup power supplies in case of a blackout
- Counter-rotating ring configuration
- Route and Central Office diversity
- Full electronic redundancy capable of rerouting traffic in milliseconds in the event of a fiber cut.

The merger of MCI and WorldCom greatly increases their capacity. At the end of 1997, WorldCom had eight rings and were completing their ninth and MCI had two rings additional rings. As there has been no network expansion in 1998, the combined network of MCI WorldCom currently operates a total of 10 or 11 SONET rings within the Chicago area. MCI WorldCom's backbone now transmits at speeds as high as OC-192 though OC-48 is more typical. Its fiber presence is most dense in Chicago's central business district (where the majority of its largest customers reside) and stretches to the suburbs from there.

MCI WorldCom's Chicago network can be viewed as the composite of three distinct pieces: Downtown, the northern suburbs, and the western suburbs. Multiple overlapping SONET rings comprise the northern portion of the network that stretches from O'Hare International Airport north into Lake County. MCI WorldCom operates equipment sites in Deerfield and Schaumburg to manage voice and data traffic over this portion of its network. Fiber currently passes through the vast majority of business-intensive suburbs located in Northern Cook County and southern Lake County, including:

- Northbrook
- Deerfield
- Schaumburg
- Des Plaines
- Rolling Meadows
- Elk Grove Village
- O'Hare International Airport

- Wheeling
- Glenview

WorldCom has also installed fiber to serve business customers in the western suburbs. The western portion of the network stretches west from the central business district to Downer's Grove and Naperville. Additionally, there are two equipment sites located along the western route – one in Naperville and one in Oakbrook. The two suburban portions of the network are connected via a fiber link on Route 83 between Elk Grove Village and Oakbrook. MCI WorldCom is capable of offering services to customers in the following municipalities in western Cook County and northern Du Page County:

- Cicero
- Oakbrook
- Downer's Grove
- Naperville
- Darien

Downtown, MCI WorldCom has nearly universal coverage between Interstate 90 and Lake Michigan. Streets known to be fiber conduits include: Michigan Avenue, Wacker Drive, Franklin Street, and LaSalle Street.

FIBER SPECIFICATIONS

MCI WorldCom's Chicago area network is constructed entirely of optical fiber. No customers in on-net buildings are served via twisted copper pair; however, sales reps indicate that some type II customers' traffic is routed over copper Ameritech or GTE facilities. MCI WorldCom employs Siecor and Corning fiber in its Chicago network. Backbones consists of 144-244 strand, single mode, optical fiber; however dual mode fiber may be used in building risers and in the company's long-haul facilities.

NETWORK EXPANSION PLANS

Once again, the effort involved in executing a large-scale merger has sharply curtailed WorldCom's network expansion in Chicago. In late 1997, network growth fell off sharply as the newly united WorldCom and MFS focused their efforts on integrating sales forces and operations rather than building out their network. Similarly, in 1998 network expansion appears to have halted as WorldCom and MCI have merged.

Currently, MCI WorldCom representatives in Chicago state that the company will add fiber on an "as-needed" basis, building out its network to meet customers when the costs of expansion can be justified. However, it is unclear whether this represents MCI WorldCom's long-range

expansion strategy or is simply a contingency plan until the company works through the numerous internal, operational issues arising from the merger.

To the degree that MCI WorldCom must first deal with its internal issues (e. g. reorganizing and retraining its staff) before it can create and execute a network expansion strategy, it may be several months before additional fiber route miles are added. QUALITY STRATEGIES has observed general confusion and misinformation within MCI WorldCom's sales organization throughout the Mid-West, which suggests that while the merger may be complete from a legal perspective, the company is far from realizing its new potential.

TARGETED BUILDINGS

Business development personnel have previously reported that the company would like to light every major building in the greater metro area within the next five years. However, little progress has been made towards that goal during the past year. Currently, there are approximately 300 buildings connected to MCI WorldCom's Chicago area network; the vast majority of which are located in downtown Chicago. Excluding the former MCI Metro buildings, this represents a net gain of about 10 buildings.

Bottom line financial feasibility drives MCI WorldCom's decision to add a building to its network. Financial analysts run a business case scenario when the company captures a new HICAP or local account to see whether or not it is fiscally responsible to directly connect the building to the network.

NETWORK ELECTRONICS AND INFRASTRUCTURE

With the merger complete, MCI WorldCom now operates three switches in the Chicago area. This allows the company to offer its customers a higher degree of reliability through switch diversity, a network feature not offered by most CLECs. The switches are at the following locations:

- A Class 5, Ericsson AXE located at its downtown equipment site at 80 South Wells Street,
- A Nortel DMS 500 located in Downers Grove, and
- A Nortel DMS 100 located downtown.

MCI WorldCom purchases network electronics from various vendors to route traffic in greater Chicago. The vast majority of multiplexing equipment is purchased from Fujitsu and Alcatel. The company began deploying Fujitsu electronics several quarters ago because it allowed for maximum compatibility with several RBOC networks. It also purchases add/drop and transport muxing equipment from Alcatel. Models frequently utilized include:

- Alcatel M13 terminal multiplexers
- Alcatel 16 series SONET transport system multiplexers

- Fujitsu FLM series (6, 150, 600 and 2400) multiplexers

In late 1996, MCI WorldCom signed a multi-year, multi-million dollar contract with Alcatel to supply its networks with muxing equipment and digital cross connects. It purchases 3/1 and 1/0 digital cross connects from Alcatel for use in Chicago. Additionally, WorldCom Chicago has purchased Lucent Technologies DACS IV cross connects to assist with transmission in the Chicago area.

WorldCom currently operates fiber equipment sites in the greater Chicago area located in the following municipalities:

- Downtown Chicago
- Naperville
- Oakbrook
- Deerfield
- Rolling Meadows

Additionally, MCI WorldCom generally utilizes Cascade 9000 series frame relay switches in it's metro area networks.

MCI WORLD COM CHICAGO ON-NET BUILDINGS

WorldCom currently has approximately 400 buildings connected to its greater Chicago area network. While the vast majority are located downtown, it has also lit several in Oakbrook, Schaumburg, and Northbrook.

A near-complete building list is provided on the following pages:

ADDRESS	INITIAL REPORT
1200 E Algonquin Rd Arlington Hgts	1Q98
707 W Algonquin Rd Arlington Hgts	1Q98
7300 S Central Bedford Park	1Q98
602 N York Rd Bensenville	1Q98
7 W Green St Bensenville	1Q98
1 E Wacker Dr Chicago	1Q98
1 N State St Chicago	1Q98
1 S Clark St Chicago	1Q98
1 S Wacker Dr Chicago	1Q98
10 30 S Wacker Dr Chicago	1Q98
10 S Canal St Chicago	1Q98
10 S Dearborn St Chicago	1Q98
10 S LaSalle St Chicago	1Q98
10 S Riverside Plz Chicago	1Q98
10 S Wacker Dr Chicago	1Q98
100 S Wacker Dr Chicago	1Q98
101 N Wacker Dr Chicago	1Q98
1100 N Beach St Chicago	1Q98
111 N Canal St Chicago	1Q98
111 N State St Chicago	1Q98
ADDRESS	INITIAL REPORT

111 S Michigan Ave Chicago	1Q98
111 W Jackson Blvd Chicago	1Q98
111 W Monroe St Chicago	1Q98
112 S Michigan Ave Chicago	1Q98
11301 W Cermak Rd Chicago	1Q98
115 S La Salle St Chicago	1Q98
120 S LaSalle St Chicago	1Q98
120 S Riverside Plz Chicago	1Q98
1212 S. Michigan Ave Chicago	1Q98
123 N Wacker Dr Chicago	1Q98
125 S Franklin St Chicago	1Q98
125 S Wacker Dr Chicago	1Q98
130 E Randolph St Chicago	1Q98
1340 Remington Rd Chicago	1Q98
1349 S Wabash Ave Chicago	1Q98
135 S LaSalle St Chicago	1Q98
1375 S Eastwood Dr Chicago	1Q98
140 S Dearborn St Chicago	1Q98
141 W Jackson Blvd Chicago	1Q98
150 N Michigan Ave Chicago	1Q98
150 S Wacker Dr Chicago	1Q98
151 N Michigan Ave Chicago	1Q98
155 N Michigan Ave Chicago	1Q98
1550 Howard St Chicago	1Q98
ADDRESS	INITIAL REPORT
1600 S Kostner Ave Chicago	1Q98
161 N Clark St Chicago	1Q98

16400 103rd St Chicago	1Q98
165 N Canal St Chicago	1Q98
175 W Jackson Blvd. Chicago	1Q98
177 W Boardwalk Dr Chicago	1Q98
17W220 22nd St Chicago	1Q98
180 N Stetson Ave Chicago	1Q98
180 N Wacker Dr Chicago	1Q98
181 W Madison St Chicago	1Q98
190 S LaSalle St Chicago	1Q98
1933 N Meacham Rd Chicago	1Q98
2 N LaSalle St Chicago	1Q98
2 N Riverside Plz Chicago	1Q98
2 Pierce Place Chicago	1Q98
20 N Wacker Dr Chicago	1Q98
20 S Wacker Dr Chicago	1Q98
200 E Randolph Dr Chicago	1Q98
200 N LaSalle St Chicago	1Q98
200 S Wacker Dr Chicago	1Q98
200 W Adams St Chicago	1Q98
200 W Madison St Chicago	1Q98
205 N Michigan Ave Chicago	1Q98
208 S LaSalle St Chicago	1Q98
ADDRESS	INITIAL REPORT
209 S La Salle St Chicago	1Q98
216 W Jackson Blvd Chicago	1Q98
221 N La Salle St Chicago	1Q98
222 Merchandise Mart Plz Chicago	1Q98

222 N La Salle St Chicago	1Q98
222 S Riverside Plz Chicago	1Q98
222 W Adams St Chicago	1Q98
225 N Michigan Ave Chicago	1Q98
225 W Wacker Dr Chicago	1Q98
225 W Washington St Chicago	1Q98
227 W Monroe St Chicago	1Q98
230 N Michigan Ave Chicago	1Q98
230 S LaSalle St Chicago	1Q98
230 W Monroe St Chicago	1Q98
2300 S Kedvale Ave Chicago	1Q98
2300 W Peterson Chicago	1Q98
2301 172nd St Chicago	1Q98
231 S La Salle St Chicago	1Q98
233 E Ontario St Chicago	1Q98
233 S Wacker Dr Chicago	1Q98
2612 W Peterson Chicago	1Q98
280 Shuman Blvd Chicago	1Q98
30 N LaSalle St Chicago	1Q98
300 S Riverside Plz Chicago	1Q98
ADDRESS	INITIAL REPORT
300 S Wacker Dr Chicago	1Q98
300 W Adams St Chicago	1Q98
301 E Erie St Chicago	1Q98
303 W Madison St Chicago	1Q98
311 S Wacker Dr Chicago	1Q98
311 W Washington St Chicago	1Q98

3113 Woodcreek Dr Chicago	1Q98
318 W Adams Chicago	1Q98
3227 N Sheffield Ave Chicago	1Q98
327 S LaSalle St Chicago	1Q98
33 N Dearborn St Chicago	1Q98
33 W Monroe St Chicago	1Q98
330 N Wabash Ave Chicago	1Q98
330 W Webster Ave Chicago	1Q98
333 W Wacker Dr Chicago	1Q98
350 N Clark St Chicago	1Q98
350 N Orleans St Chicago	1Q98
37 S Wabash Ave Chicago	1Q98
3737 W Cortland St Chicago	1Q98
3773 Willow Rd Chicago	1Q98
400 N Michigan Ave Chicago	1Q98
400 S La Salle St Chicago	1Q98
401 N Michigan Ave Chicago	1Q98
401 N Wabash Ave Chicago	1Q98
ADDRESS	INITIAL REPORT
401 S LaSalle St Chicago	1Q98
4179 W Irving Park Rd Chicago	1Q98
425 N Martingale Rd Chicago	1Q98
427 S. LaSalle Chicago	1Q98
429 2nd Ave Chicago	1Q98
435 N LaSalle St Chicago	1Q98
440 S LaSalle St Chicago	1Q98
455 N Cityfront Plaza Dr Chicago	1Q98

500 W Madison St Chicago	1Q98
500 W Monroe St Chicago	1Q98
5050 N Broadway Chicago	1Q98
509 S Dearborn St Chicago	1Q98
515 N State St Chicago	1Q98
520 S Federal St Chicago	1Q98
525 W Monroe St Chicago	1Q98
5445 W Diversey Ave Chicago	1Q98
547 W Jackson Blvd Chicago	1Q98
55 E Monroe St Chicago	1Q98
55 W Monroe St Chicago	1Q98
555 W Adams St Chicago	1Q98
5655 W Fillmore St #1 Chicago	1Q98
600 S Federal St Chicago	1Q98
600 W Madison St Chicago	1Q98
6111 N River Rd Chicago	1Q98
ADDRESS	INITIAL REPORT
6250 N River Rd Chicago	1Q98
626 W Jackson Blvd Chicago	1Q98
630 N McClurg Court Chicago	1Q98
6313 W Fullerton Ave Chicago	1Q98
688 Industrial Dr Chicago	1Q98
69 W Washington St Chicago	1Q98
70 W Madison St Chicago	1Q98
77 W Wacker Dr Chicago	1Q98
794 Oak St Chicago	1Q98
800 Enterprise Dr Chicago	1Q98

800 S Wells St Chicago	1Q98
815 Garfield St Chicago	1Q98
8410 W Bryn Mawr Ave Chicago	1Q98
85 W Congress Pky Chicago	1Q98
8501 W Higgins Rd Chicago	1Q98
8600 W Bryn Mawr Ave Chicago	1Q98
875 N Michigan Ave Chicago	1Q98
8755 W Higgins Rd Chicago	1Q98
8770 W Bryn Mawr Ave Chicago	1Q98
900 S Ridgeland Ave Chicago	1Q98
919 W 38th St Chicago	1Q98
1536 Prairie Ave E Des Plaines	1Q98
1700 E Higgins Rd Des Plaines	1Q98
25-30 E Algonquin Rd Des Plaines	1Q98
ADDRESS	INITIAL REPORT
341 Haynes Dr Des Plaines	1Q98
666 Dundee Rd Des Plaines	1Q98
1401 Branding Ln Downers Grove	1Q98
1501 Opus Pl Downers Grove	1Q98
3113 Woodcreek Dr Downers Grove	1Q98
3200 Highland Ave Downers Grove	1Q98
3333 Beverly Rd Downers Grove	1Q98
555 W Jackson Blvd Downers Grove	1Q98
10 Scott St Elk Grove Village	1Q98
101 NW Point Blvd Elk Grove Village	1Q98
1200 E Algonquin Rd Elk Grove Village	1Q98
2001 N Cline Ave Elk Grove Village	1Q98

25 NW Point Blvd Elk Grove Village	1Q98
8755 W Higgins Rd Elk Grove Village	1Q98
118 N Clinton St Elmhurst	1Q98
152 S York St Elmhurst	1Q98
1275 Milwaukee Ave Glenview	1Q98
1250 N Mittel Blvd Griffith	1Q98
2809 Butterfield Rd Hinsdale	1Q98
2221 Camden Ct. Hinsdale	1Q98
1 Pierce Pl Itasca	1Q98
2 Pierce Pl Itasca	1Q98
225 W Ohio St Itasca	1Q98
300 Park Blvd Itasca	1Q98
ADDRESS	INITIAL REPORT
333 W Pierce Rd Itasca	1Q98
4444 W Montrose Ave Itasca	1Q98
500 Park Blvd. Itasca	1Q98
8501 W Higgins Rd Lansing	1Q98
1013 W Hawthorne Dr Libertyville	1Q98
3080 Ogden Ave Lisle	1Q98
333 W Pierce Rd Lisle	1Q98
801 Warrenville Rd Lisle	1Q98
901 Warrenville Rd Lisle	1Q98
7921 Laurel Canyon Blvd N Hollywood	1Q98
1240 E Diehl Rd Naperville	1Q98
25 E Algonquin Rd Naperville	1Q98
25 W 221 Ridgeland Rd Naperville	1Q98
701 E 22nd St Naperville	1Q98

2029 Walters Ave Northbrook	1Q98
2305 Sanders Rd Northbrook	1Q98
2775-3075 Sanders Rd Northbrook	1Q98
280 Shuman Blvd. Northbrook	1Q98
3100 Dundee Rd Northbrook	1Q98
3200 Arnold LN Northbrook	1Q98
3773 Willow Rd Northbrook	1Q98
1 Kraft Ct #2 Oak Brook	1Q98
10 Oak Brook Center Oak Brook	1Q98
1000 Commerce Dr Oakbrook	1Q98
ADDRESS	INITIAL REPORT
1111 W 22nd St Oakbrook	1Q98
1520 Kensington Rd Oakbrook	1Q98
2001 Butterfield Rd Oak Brook	1Q98
2115 Butterfield Rd Oakbrook	1Q98
2221 Camden Ct Oak Brook	1Q98
2809 Butterfield Rd Oakbrook	1Q98
577 Lamont Rd Oak Park	1Q98
815 Commerce Dr Oakbrook	1Q98
1 Tower Ln Oakbrook Terrace	1Q98
1901 S Meyers Rd Oakbrook Terr.	1Q98
220 W 22nd St Oakbrook Terrace	1Q98
255 W Touhy Ave Park Ridge	1Q98
36 S Fairview Ave Park Ridge	1Q98
1601 N Clark St Rolling Meadows	1Q98
1701 E Golf Rd Rolling Meadows	1Q98
219 Lincoln Dr Rolling Meadows	1Q98

2550 Golf Rd Rollings Meadows	1Q98
3820 Golf Rd Rollings Meadows	1Q98
10 E Irving Park Rd Roselle	1Q98
10255 W Higgins Rd Rosemont	1Q98
20 S Wacker Dr #30 Rosemont	1Q98
330 S Wells St Rosemont	1Q98
6111 N River Rd Rosemont	1Q98
6250 N River Rd Rosemont	1Q98
ADDRESS	INITIAL REPORT
9399 W Higgins Rd Rosemont	1Q98
1 Oakbrook Terr Schaumburg	1Q98
1 Pierce Place Schaumburg	1Q98
10 W State St Schaumburg	1Q98
12311 S Seminole Rd Schaumburg	1Q98
1240 E Diehl Rd Schaumburg	1Q98
1299 E Algonquin Rd Schaumburg	1Q98
1303 E Algonquin Rd Schaumburg	1Q98
1400 American Lane Schaumburg	1Q98
150 N Martingale Rd Schaumburg	1Q98
1501 Opus Place Schaumburg	1Q98
1700 E Golf Rd Schaumburg	1Q98
1750 E Golf Rd Schaumburg	1Q98
1900 E Golf Rd Schaumburg	1Q98
1933 N Meacham Rd Schaumburg	1Q98
231 N Martingale Rd Schaumburg	1Q98
255 E Chicago St Schaumburg	1Q98
301 E N Water St Schaumburg	1Q98

425 N Martingale Rd Schaumburg	1Q98
475 N Martingale Rd Schaumburg	1Q98
5494 Rainer Dr Schaumburg	1Q98
700 Mall Dr Schaumburg	1Q98
711 N Edgewood Ave Schaumburg	1Q98
955 American LN Schaumburg	1Q98
ADDRESS	INITIAL REPORT
999 N Plaza Dr Schaumburg	1Q98
1 Oakbrook Ter. Villa Park	1Q98
17 W 220 22nd St Villa Park	1Q98
213 W Institute Pl Villa Park	1Q98
547 W Jackson Blvd Westmont	1Q98
999 Oakmont Plaza Westmont	1Q98
50 E Dundee Rd Wheeling	1Q98
171 N Clark St Wood Dale	1Q98
1901 S Meyer Rd Wood Dale	1Q98
341 Haynes Dr Wood Dale	1Q98
501 N Sacramento Blvd Wood Dale	1Q98
711 N Edgewood Ave Wood Dale	1Q98
1114 S Fleming Woodstock	1Q98
1000 Corporate Chicago	3Q98
320 E 21st St Chicago	3Q98
2150 E Lake Cook Chicago	3Q98
100 E Walton St Chicago	3Q98
1122 N Clark St Chicago	3Q98
150 N Clinton St Chicago	3Q98
6214 N Leona Ave Chicago	3Q98

1632 N Mohawk St Chicago	3Q98
8755 N Prospect Ave Chicago	3Q98
225 S Aberdeen St Chicago	3Q98
5467 S University Ave Chicago	3Q98
ADDRESS	INITIAL REPORT
37 S Wacker Dr Chicago	3Q98
4935 W 47th St Chicago	3Q98
332 W Dickens Ave Chicago	3Q98
7 W Green St Chicago	3Q98
4901 W Irving Park Chicago	3Q98
226 W Jackson Blvd Chicago	3Q98
555 W Jackson Blvd Chicago	3Q98
235 W Washington Chicago	3Q98
4 N Prospect Ave Clarendon	3Q98
450 Lake Cook Rd Deerfield	3Q98
570 Lake Cook Rd Deerfield	3Q98
1751 Lake Cook Rd Deerfield	3Q98
1111 E Tougy Ave Des Plaines	3Q98
955 Arthur Ave Elk Grove	3Q98
21 Spinning Wheel Hinsdale	3Q98
701 Warrenville Rd Lisle	3Q98
641 E Butterfield Rd Lombard	3Q98
40 Shuman Blvd Naperville	3Q98
184 Shuman Blvd Naperville	3Q98
11 Bridlewood Ln Northbrook	3Q98
3345 Commercial Ave Northbrook	3Q98
1901 W 22nd St Oak Brook	3Q98

1375 Remington Rd Schaumburg	3Q98
21 Lake Adalyn Dr S Barrington	3Q98
ADDRESS	INITIAL REPORT
3075 Highland Ave	3Q98
1 N Franklin St	3Q98
309 W Washington St	3Q98
33 N La Salle St	3Q98

AT&T LOCAL SERVICES CHICAGO

NETWORK ARCHITECTURE

With the acquisition of TCG by AT&T, AT&T Local now operates a network in the greater Chicago area that spans nearly 1000 route miles and passes through the city's central business district and the vast majority of densely-populated, business-intensive suburbs. AT&T Local builds all of its metropolitan area networks according to SONET ring architecture which features the following attributes:

- Route and Central Office diversity
- Counter rotating ring configuration
- Backup power supplies and electronic redundancy

AT&T Local's network in the greater Chicago area stretches from the Wisconsin border in the North to Gary, Indiana in the South. It consists of numerous fully redundant SONET rings with backbone transmission speeds up to OC-48. Additionally, AT&T Local has constructed several smaller fiber spurs and extensions to serve customers not directly connected to the backbone. Spurs may run somewhat more slowly, usually at OC-3 speeds. Building entrance speeds vary from OC-48 to DS-3. Additionally, AT&T Local generally installs standard DS-1 or DS-3 interfaces on customers' floors or in communications closets on other floors.

AT&T Local's serving area is similar to that of MCI WorldCom; however, AT&T Local's is far more expansive. Like MCI WorldCom, AT&T Local's fiber presence is most dense in Chicago's central business district. Fiber travels beneath several of "The Loop's" most prominent thoroughfares, including Wacker Drive, Dearborne Street, and Randolph Street. Currently, there are very few areas in the greater Chicago area that AT&T Local is not capable of serving. Its fiber presence is particularly dense in the northern suburbs in that these were among the first targeted for expansion several quarters ago. Thus far, AT&T Local has installed fiber in the following cities in northern Cook and Lake Counties:

- Skokie
- Wilmette
- Evanston
- Highland Park
- Deerfield
- Waukegan
- Rolling Meadows
- Des Plaines
- Norridge
- Schaumburg
- Northbrook
- Elk Grove
- Hoffman Estates

Additionally, AT&T Local has installed fiber to the west of Chicago. Facilities currently exist in the following communities in the western suburbs:

- Joliet
- Oakbrook
- Cicero
- Downer's Grove
- Lemont
- Geneva
- Summit
- Wheaton

Furthermore, AT&T Local's network extends directly to the south where fiber passes through the following suburban communities:

- Hammond, IN
- Alsip
- Palos Hills
- Evergreen Park
- Blue Island
- Gary, IN

Each of the four main sections of AT&T Local's Chicago network are connected by a fiber route that bypasses the Downtown facilities. Like MCI WorldCom, AT&T Local has installed fiber along Route 83 to connect the Northern and Western suburbs. The fiber travels from Elk Grove Village to Oakbrook and passes through Addison and Elmhurst. Additionally, it has connected its Western and Southern spurs with a fiber link that follows route 12/20 and Interstate 294.

FIBER SPECIFICATIONS

Generally, AT&T Local constructs its metropolitan area networks with Sincor, low loss attenuated fiber. The majority of fiber used in the network backbone is comprised of 144-244 strands and currently has OC-48 capacity. AT&T Local constructs its local networks entirely with optical fiber; no copper is used. However, some type II customers may be served via RBOC or ILEC copper facilities. AT&T Local marketing personnel indicate that it attempts to bury as much fiber in underground conduit space as possible. However, it attaches fiber to utility poles to connect geographically disparate areas and in its long haul facilities. AT&T Local is one of the only facilities-based CLECs that installs fiber to the customer's floor instead of running into the basement and using existing copper facilities in the building risers.

NETWORK EXPANSION PLANS

The acquisition of TCG by AT&T has combined Chicago's two largest CLEC networks to create a network that dwarfs the offerings of competitors such as MCI WorldCom, NextLink, Winstar, Allegiance, and Teligent.

AT&T Local officials would not disclose any details of their current network expansion plans, but did state that they are "adding route miles every day." Previous competitive intelligence activity indicates that rather than building out to new geographic areas, the company will focus on its existing service areas by closing fiber rings that were previously partially constructed and bringing new buildings on-net. AT&T Local has also been concerned with the construction of "super" metropolitan area networks that serve several MSAs over contiguous fiber facilities. On the East Coast, AT&T Local has connected its Boston, Hartford, Providence, New York, New Jersey, Philadelphia, Baltimore and Washington networks. It may undertake the same type of project in the Midwest. It has already connected its Chicago and Milwaukee networks and can carry long distance traffic between the two cities and offer point to point connections for businesses operating in both locations. It is possible that, in the future, AT&T Local may connect its Chicago network to those that it operates in Indiana, Michigan, and Ohio.

TARGETED BUILDINGS

AT&T Local representatives have been extremely cautious about disclosing any of the company's strategic network plans; however, adding new on-net buildings does not appear to be a key point of focus. Though no exact numbers were available, one AT&T Local sales representative said that they were "not even close" to having 300 buildings on-net, even though TCG alone had over 200 lit buildings at the end of 1997.

The vast majority of buildings connected to AT&T Local's network were lit in 1995 and 1996. Because it prefers to control circuits end to end instead of relying on the RBOC for type II connections, AT&T Local will connect additional large buildings as it secures switched services contracts. Additionally, it will probably light additional buildings with a high density of AT&T long distance customers.

NETWORK ELECTRONICS AND INFRASTRUCTURE

AT&T Local currently operates only one Lucent 5ESS switch (formerly operated by TCG) in the greater Chicago area, but, will be adding three new switches within the first quarter of 1999. The three new pieces of equipment appear to be Lucent 5ESS switches that were purchased, installed, and tested by AT&T prior to the acquisition but never brought into operation. One of these new switches is reported to be in Oakbrook. The switch that is currently operational is located at AT&T Local's Central Office at 717 South Wells Street in downtown Chicago.

AT&T Local strives to establish at least two equipment sites in each city where it operates: one in the city's central business district and one in the suburbs. This provides it with node diversity in the case of a natural or man-made disaster. AT&T Local operates 10 nodes in Chicago, with at least one in each of the following areas:

- Chicago

- Oakbrook
- Skokie
- Merchandise Mart
- Northbrook
- Deerfield
- Mount Prospect

AT&T Local categorizes its nodes as follows:

Type 1 consists of: Class 5 switch,
3/1 and 1/0 Digital Crossconnect Sytem, and
Permanent generator and backup power supply.

Type 2 consists of: 3/1 and 1/0 Digital Crossconnect Sytem, and
Permanent generator and backup power supply

Type 3 consists of: Same as Type 2 minus DCS.

The presence of additional nodes doubles AT&T Local's capacity along affected fiber routes.

AT&T Local currently purchases network electronics from several vendors including: Lucent Technologies, Telco, Cisco, Fore and Cascade.

In 1997, AT&T Local announced plans to adopt a Cascade frame relay platform in an effort to increase its share of data services in the downtown market. This involved the installation of Cascade STDX 9000 frame relay switches in all of its major markets. AT&T Local has used this frame relay switching platform to deploy a new line of frame relay services called "AT&T Local Frame Relay." In November, 1998, AT&T Local announced its "AT&T Local Frame Relay" services which will be available in Chicago by December, 1998. AT&T Local guarantees 99.99% packet delivery and 99.99% network availability.

Other models of network electronics include:

- Lucent DDM 2000 series add/drop multiplexers
- Lucent Technologies terminal multiplexers
- Telco M565 (for IXC POPs)
- Tellabs Titan 500 and Lucent DACS IV digital cross connects
- Lucent 5ESS central office switch
- Cisco 2524 and Cisco 4700 routers at customer premises for internet services

- Fore Systems ATM switch

AT&T Local officials indicate that it has installed facilities in the following IXC POPs and cable company headends in the greater Chicago area:

Facility	Location
AT&T POP	Rolling Meadows
Sprint POP	Rolling Meadows
TCI Head End	Schaumburg
MCI POP	Bensenville
Centel	Des Plaines
AT&T Local Node	Mount Prospect
Centel	Park Ridge
AT&T Local Node	Skokie
AT&T POP	Glenview
AT&T Local Node	Merchandise Mart
AT&T Local Node	Northbrook
AT&T Local Node	Deerfield
TCI Head End	Park Ridge
Prime Head End	Chicago
Prime NW Hub	Chicago
Prime NE Hub	Chicago
MCI POP	Northbrook
AT&T Local Node	Oakbrook
AT&T/Ameritech	Oakbrook
MCI POP	Downers Grove
Sprint POP	Keeler
TCI Head End	Chicago
Prime South Hub	Chicago

AT&T Local CHICAGO ON-NET BUILDINGS

AT&T Local officials would not disclose the total number of buildings they currently have on-net and provided a list of only 10 lit buildings. Following is a partial list of on-net buildings.

ADDRESS	INITIAL REPORT
1 Abbott Park Rd Chicago	1Q98
1 First National Plaza Chicago	1Q98
1 Mart Plaza Chicago	1Q98
1 N Dearborn St Chicago	1Q98
1 N Franklin St Chicago	1Q98
1 N La Salle Chicago	1Q98
1 Pierce Plaza Chicago	1Q98
1 S Wacker Chicago	1Q98
10 S Canal Chicago	1Q98
10 S La Salle St Chicago	1Q98
10 S Riverside Chicago	1Q98
100 S Wacker Dr Chicago	1Q98
101 N Wacker Dr Chicago	1Q98
105 W Wacker Dr Chicago	1Q98
11 S La Salle St Chicago	1Q98
111 E Wacker Dr Chicago	1Q98
111 W Monroe St Chicago	1Q98
111 W Washington Blvd Chicago	1Q98
120 N La Salle St Chicago	1Q98
120 S LaSalle St Chicago	1Q98

ADDRESS	INITIAL REPORT
120 S Michigan Ave Chicago	1Q98
120 S Riverside Chicago	1Q98
122 S Michigan Ave Chicago	1Q98
123 N Wacker Dr Chicago	1Q98
125 S Wacker Dr Chicago	1Q98
130 E Randolph St Chicago	1Q98
1349 S Wabash St Chicago	1Q98
135 S La Salle Chicago	1Q98
135 W Randolph St Chicago	1Q98
141 W Jackson Blvd Chicago	1Q98
150 N Michigan Ave Chicago	1Q98
150 S Wacker Dr Chicago	1Q98
151 N Michigan Ave Chicago	1Q98
161 E Grand Ave Chicago	1Q98
161 N Clark St Chicago	1Q98
162 E Grand Ave Chicago	1Q98
1717 S Wells St Chicago	1Q98
175 W Jackson Blvd Chicago	1Q98
180 N La Salle St Chicago	1Q98
180 N Stetson Ave Chicago	1Q98
180 N Wacker Dr Chicago	1Q98
181 W Madison St Chicago	1Q98
190 N State St Chicago	1Q98
ADDRESS	INITIAL REPORT

190 S La Salle St Chicago	1Q98
1901 W Madison Chicago	1Q98
2 N La Salle St Chicago	1Q98
2 N Riverside Plaza Chicago	1Q98
20 N Clark St Chicago	1Q98
20 N Wacker Dr Chicago	1Q98
20 S Clark St Chicago	1Q98
200 E Randolph St Chicago	1Q98
200 N La Salle St Chicago	1Q98
200 S Wacker Dr Chicago	1Q98
200 W Adams St Chicago	1Q98
200 W Madison Chicago	1Q98
200 W Monroe St Chicago	1Q98
200 Wilmont Rd Chicago	1Q98
201 S La Salle St Chicago	1Q98
202 W State St Chicago	1Q98
203 N La Salle St Chicago	1Q98
205 N Michigan Ave Chicago	1Q98
208 S La Salle St Chicago	1Q98
211 E Ontario St Chicago	1Q98
2121 S Archer Rd Chicago	1Q98
216 W Jackson Blvd Chicago	1Q98
22 N La Salle St Chicago	1Q98
221 La Salle St Chicago	1Q98
ADDRESS	INITIAL REPORT
222 W Adams St Chicago	1Q98

224 S Michigan Ave Chicago	1Q98
225 N Michigan Ave Chicago	1Q98
225 W Wacker Dr Chicago	1Q98
225 W Washington Blvd Chicago	1Q98
227 W Monroe St Chicago	1Q98
230 S La Salle St Chicago	1Q98
230 W Monroe St Chicago	1Q98
233 N Michigan Ave Chicago	1Q98
233 S Wacker Dr Chicago	1Q98
250 S Wacker Dr Chicago	1Q98
30 N La Salle St Chicago	1Q98
30 S Wacker Dr Chicago	1Q98
300 S Wacker Dr Chicago	1Q98
3003 Butterfield Rd Chicago	1Q98
303 E Wacker Dr Chicago	1Q98
307 N Michigan Ave Chicago	1Q98
311 S Wacker Dr Chicago	1Q98
311 Washington Blvd Chicago	1Q98
321 N Clark St Chicago	1Q98
327 S La Salle St Chicago	1Q98
33 N Dearborn St Chicago	1Q98
33 N La Salle Chicago	1Q98
330 N State St Chicago	1Q98
ADDRESS	INITIAL REPORT
330 N Wabash Chicago	1Q98
333 N Michigan Ave Chicago	1Q98

333 W Wacker Dr Chicago	1Q98
35 W Wacker Dr Chicago	1Q98
350 N Orleans St Chicago	1Q98
38 S Peoria St Chicago	1Q98
400 S La Salle St Chicago	1Q98
400-10 N Michigan Ave Chicago	1Q98
401 N Wabash Ave Chicago	1Q98
4200 W 40th St Chicago	1Q98
427 S La Salle St Chicago	1Q98
435 N Michigan Ave Chicago	1Q98
440 S LaSalle St Chicago	1Q98
444 N Michigan Ave Chicago	1Q98
450 Lake Cook Rd Chicago	1Q98
500 N Michigan Ave Chicago	1Q98
509 N Dearborn Chicago	1Q98
520 S Federal St Chicago	1Q98
525 W Monroe St Chicago	1Q98
541 N Fairbanks Court Chicago	1Q98
547 W Jackson Blvd Chicago	1Q98
55 E Monroe St Chicago	1Q98
55 W Monroe St Chicago	1Q98
55 W Wacker Dr Chicago	1Q98
ADDRESS	INITIAL REPORT
600 S Federal St Chicago	1Q98
625 N Michigan Chicago	1Q98
630 N McClurg Court Chicago	1Q98

633 N St Clair St Chicago	1Q98
641 Dearborn Chicago	1Q98
676 N St Clair St Chicago	1Q98
70 W Madison St Chicago	1Q98
701 N Lake Shore Dr Chicago	1Q98
71 E Wacker Dr Chicago	1Q98
710 N Lake Shore Dr Chicago	1Q98
717 S Wells Chicago	1Q98
737 N Michigan Ave Chicago	1Q98
777 W Chicago Ave Chicago	1Q98
85 W Congress Parkway Chicago	1Q98
875 N Michigan Ave Chicago	1Q98
8755 W Higgins Rd Chicago	1Q98
919 N Michigan Ave Chicago	1Q98
980 N Michigan Ave Chicago	1Q98
990 W Fullerton Ave Chicago	1Q98
Madison & Jefferson Chicago	1Q98
Wabash & Van Buren Chicago	1Q98
1 Baxter Parkway Deerfield	1Q98
1435 Lake Cook Rd Deerfield	1Q98
501 Lake Cook Rd Deerfield	1Q98
ADDRESS	INITIAL REPORT
688 Industrial Dr Elmhurst	1Q98
900 Lee St Elk Grove	1Q98
1400 Waukegan Rd McGaw Park	1Q98
1084 Mt Prospect Rd Mt Prospect	1Q98

1675 Lakeside N Chicago	1Q98
3601 N Skokie Highway N Chicago	1Q98
3202 Arnold Lane Northbrook	1Q98
3345 Commercial Ave Northbrook	1Q98
1000 Commerce Oakbrook	1Q98
2000 York Rd Oakbrook	1Q98
2001 Butterfield Rd Oakbrook	1Q98
2115 Butterfield Rd Oakbrook	1Q98
1575 Rohlwing Rd Rolling Mdw	1Q98
4901 Searle Parkway Skokie	1Q98
5200 Old Orchard Rd Skokie	1Q98

WINSTAR CHICAGO

NETWORK ARCHITECTURE

Operating a point-to-point, 38 gigahertz, fixed wireless network, WinStar was the first company in the Chicago area to provide dedicated and switched telecommunications services over a wireless medium. Rather than transmitting voice and data over fiber or copper, WinStar uses radio waves transmitted by rooftop antennas to carry its telecommunications traffic. This approach offers some distinct advantages:

- **Lower Network Costs** – Since it does not have to buy and install fiber, WinStar eliminates an enormous cost that the typical CLEC has to carry.
- **Success-Based Capital Investment** – Unlike the older, fiber-based CLECs that had to build their networks before they could sell services, most of a fixed wireless network's capital investment is in customer equipment which is not purchased until a contract is signed. This eliminates most of the risk of capital investment.
- **End-to-End Network Control** – With the relatively simple and inexpensive installation of a customer antenna, WinStar gains control of its customers entire circuit. This not only reduces WinStar's costs, but enables the company to provide better customer services.
- **Speed to Market** – By eliminating the necessity of laying fiber, WinStar can provide service much more quickly than the typical CLEC.
- **Flexible Network Equipment Configurations** – Again, because it is not tied to fiber that is either buried in the ground or strung along poles, WinStar can easily shift its network resources to meet the changing needs of the market.
- **Greater Reliability** – Unlike fiber-based networks that are constantly at risk of being disrupted by digging equipment or falling trees, radio waves cannot be cut or broken.

Operating in the 38-gigahertz band, all transmissions must be within a line of sight of the intended receiver. This presents one of the drawbacks of this network architecture in that some buildings cannot be served due to their placement. However, WinStar officials assert that it can serve at least 75% of the buildings in a given geographic area if it so desires. Radio transmissions in the 38 gigahertz frequency range can effectively reach approximately 1.5 miles. WinStar has purchased 38 gigahertz transmission licenses at FCC auctions in virtually every major market in the United States.

WinStar's Chicago network now has transmission facilities on 125 rooftops. One of WinStar's major distribution facilities in the Chicago area is the LaSalle-Wacker Building where it has established an antenna farm of 70 small units. It has also operates a 40-foot tower antenna that received a lot of free, favorable press from the Chicago media when it was encased in an art deco

design. Additionally, WinStar has attached antennas to the roofs of several other prominent Chicago high-rises including the Sears Tower and Merchandise Mart.

WinStar's network construction strategy begins with the installation of facilities in the central business district where margins are high and a gradual buildout to serve more geographically disparate suburbs. In Chicago, WinStar began reselling Ameritech local exchange services in 1996 and has now converted many of these customers to its own facilities. Its current serving area covers the majority of Chicago proper as well as the following suburban localities:

- The Loop
- Bensenville
- Downer's Grove
- Northbrook
- Oak Brook
- Oak Brook Terrace

NETWORK EXPANSION PLANS

WinStar first began offering facilities-based services in the third quarter of 1997, and had established approximately 25 rooftop transmission facilities by the end of that year. Today, WinStar operates transmission facilities from at least 125 buildings in the Chicago area and is aggressively marketing its services through programs such as "Project Millennium" which offers first-time customers (located in buildings where they have access rights) free local phone service up to \$1,000 per month until the year 2000. (Customers must sign up for "Project Millennium" between October 31, 1998 and January 31, 1999.

TARGETED BUILDINGS

In the past year, WinStar has fulfilled its goal of adding 100 new buildings to its network. Though WinStar officials did not state any specific objectives, the company has acquired access rights to 95 additional buildings. Based on their past performance, it is not unreasonable to think that WinStar will have these buildings connected in the next several quarters.

WinStar's process for adding buildings and expanding its network overall is as follows:

- Identify targeted buildings,
- Install a switch on parallel paths,
- Sell to customers in the targeted buildings,
- Acquire roof rights on the targeted buildings,
- Pre-wire the targeted buildings,
- Prepare building hub site ,

- Connect customers to their switch over resold lines, and
- Replace resold lines with “wireless fiber” connections directly to the switch or hub site.

NETWORK ELECTRONICS AND INFRASTRUCTURE

WinStar uses a Lucent 5ESS central office switch to route local switched traffic in Chicago. This switch was installed in April, 1997. Other network equipment employed by WinStar includes:

- Newbridge multiprotocol ATM switches,
- Ascend 9000 Frame Relay switches,
- Cisco Internet routers, and
- Lucent 4/5ESS-2000 voice switches.

On-net Buildings

WinStar has attached its line of sight antenna to at least 125 buildings in Chicago and surrounding suburbs. Following is a partial list of WinStar's on-net buildings.

ADDRESS	INITIAL REPORT
515 N State St Chicago	3Q98
560 W Lake St Chicago	3Q98
1001 W Van Buren St Chicago	3Q98
420 N Wabash Ave Chicago	3Q98
750 N Orleans St Chicago	3Q98
547 W Jackson Blvd Chicago	3Q98
500 S Clinton St Chicago	3Q98
500 N Dearborn St Chicago	3Q98
1 N State St Chicago	3Q98
35 E Wacker Dr Chicago	3Q98
111 E Wacker Dr Chicago	3Q98
105 W Adams St Chicago	3Q98
310 S Michigan Ave Chicago	3Q98
900-920 N Franklin St Chicago	3Q98
430 W Erie St Chicago	3Q98
640 N La Salle Dr Chicago	3Q98
332 S Michigan Ave Chicago	3Q98
47 W Polk St Chicago	3Q98
123 W Madison St Chicago	3Q98
20 S Clark St Chicago	3Q98
120 W Madison St Chicago	3Q98
ADDRESS	INITIAL REPORT
220 S State St Chicago	3Q98

440 S La Salle St Chicago	3Q98
8 S Michigan Ave Chicago	3Q98
333 N Michigan Ave Chicago	3Q98
111 N Wabash Ave Chicago	3Q98
55 E Monroe St Chicago	3Q98
303 W Erie St Chicago	3Q98
612 S Clinton St Chicago	3Q98
1185 N Clark St Chicago	3Q98
1 E Delaware Pl Chicago	3Q98
310 E Randolph St Chicago	3Q98
222 N La Salle St Chicago	3Q98
850 W Jackson Blvd Chicago	3Q98
820 W Jackson Blvd Chicago	3Q98
875 W Huron St Chicago	3Q98
820 N Orleans St Chicago	3Q98
211 E Ontario St Chicago	3Q98
180 N Michigan Ave Chicago	3Q98
33 N Dearborn St Chicago	3Q98
400 W Erie St Chicago	3Q98
14 E Jackson Blvd Chicago	3Q98
600 W Van Buren St Chicago	3Q98
150 N Wacker Dr Chicago	3Q98
200 S Wacker Dr Chicago	3Q98
ADDRESS	INITIAL REPORT
325 W Huron St Chicago	3Q98
100 S La Salle St Chicago	3Q98
318 W Randolph St Chicago	3Q98

215 W Superior St Chicago	3Q98
200 W Monroe St Chicago	3Q98
212 W Superior St Chicago	3Q98
155 N Wacker Dr Chicago	3Q98
737 N Michigan Ave Chicago	3Q98
101 W Grand Ave Chicago	3Q98
225 W Washington St Chicago	3Q98
20 N Wacker Dr Chicago	3Q98
33 E Congress Pkwy Chicago	3Q98
444 N Wells St Chicago	3Q98
141 W Jackson Blvd Chicago	3Q98
101 N Wacker Dr Chicago	3Q98
875 N Michigan Ave Chicago	3Q98
500 N Michigan Ave Chicago	3Q98
205 W Randolph St Chicago	3Q98
221 N La Salle St Chicago	3Q98
11 S La Salle St Chicago	3Q98
322 S Green St Chicago	3Q98
155 N Michigan Ave Chicago	3Q98
300 W Washington St Chicago	3Q98
125 S Wacker Dr Chicago	3Q98
ADDRESS	INITIAL REPORT
500 W Monroe St Chicago	3Q98
222 W Hubbard St Chicago	3Q98
85 E Wacker Dr Chicago	3Q98
160 N La Salle St Chicago	3Q98
203 N Wabash Ave Chicago	3Q98

415 N La Salle Dr Chicago	3Q98
54 W Hubbard St Chicago	3Q98
549 W Randolph St Chicago	3Q98
820 N La Salle Dr Chicago	3Q98
1021 W Adams St Chicago	3Q98
11 E Adams St Chicago	3Q98
954 W Washington Blvd Chicago	3Q98
300 S Wacker Dr Chicago	3Q98
320 W Ohio St Chicago	3Q98
372 W Ontario St Chicago	3Q98
1420 Kensington Rd Chicago	3Q98
1 Tower La Chicago	3Q98
18W100 22nd St Chicago	3Q98
1 Oakbrook Ter Chicago	3Q98
377 E Butterfield Rd Chicago	3Q98
333 E Butterfield Rd Chicago	3Q98
1919 S Highland Ave Chicago	3Q98
1920 S Highland Ave Chicago	3Q98
2809 Butterfield Rd Chicago	3Q98
ADDRESS	INITIAL REPORT
77 S Wacker Dr Chicago	3Q98
213 W Institute Pl Chicago	3Q98
28 E Jackson Blvd Chicago	3Q98
150 E Huron St Chicago	3Q98
2707 Butterfield Rd Chicago	3Q98
444 N Wabash Ave Chicago	3Q98
816 W Van Buren St Chicago	3Q98

329 W 18th St Chicago	3Q98
2803 Butterfield Rd Chicago	3Q98
2805 Butterfield Rd Chicago	3Q98
55 E Washington St Chicago	3Q98
443 S Summit Ave Chicago	3Q98
16450 Summit Ave Chicago	3Q98
2021 Midwest Rd Chicago	3Q98
2625 Butterfield Rd Chicago	3Q98
208 S La Salle St Chicago	3Q98
427 S La Salle St Chicago	3Q98
218 S Wabash Ave Chicago	3Q98
651 W Washington Blvd Chicago	3Q98
517 S Jefferson St Chicago	3Q98
445 N Walls St Chicago	3Q98
318 W Adams St Chicago	3Q98
1520 Kensington Rd Chicago	3Q98
343 W Erie St Chicago	3Q98
ADDRESS	INITIAL REPORT
619 S Wabash Ave Chicago	3Q98
311 W Superior St Chicago	3Q98
730 N Franklin St Chicago	3Q98
309 W Washington St Chicago	3Q98
414 N Orleans St Chicago	3Q98
77 W Washington St Chicago	3Q98
5 N Wabash Ave Chicago	3Q98
770 N La Salle Dr Chicago	3Q98

NEXTLINK CHICAGO

NETWORK ARCHITECTURE

A late entrant into the Chicago market, NextLink installed its Nortel DMS 500 switch in Woodale in February 1998 and began offering facilities-based services shortly thereafter. The company has worked aggressively to build out its network over the past few months, however, and now claims to have 110 route miles of fiber serving the Chicago LATA (#358). NextLink account personnel claim that their company builds the most modern networks in the world. The Chicago facilities are constructed according to SONET ring architecture and come complete with the following features:

- Counter-rotating ring configuration
- Electronic redundancy and route diversity
- Time division multiplexing to ensure the efficient transmission of voice and data

NextLink's fiber backbone in Chicago is capable of transmitting voice and data at speeds up to OC-48. However, technicians indicate that local distribution routes operate at lower optical speeds. Depending upon the bandwidth requirements of the tenants, end-user premises are generally equipped with DS-1, DS-3, or OC-3 interfaces. NextLink officials indicate that the company will have several customers in "the Loop" requiring optical circuits due to the reliance on high-speed data communications by many businesses located there. NextLink reports that it will have at least a single DS-3 connection to all of the major carriers in the Chicago area and will have multiple DS-3s in many cases.

Downtown, NextLink has installed fiber beneath the major thoroughfares that serve as home to many of the Midwest's larger businesses. Analysts believe that NextLink has installed fiber beneath the following streets in Chicago's central business district:

- Wacker Drive
- LaSalle Street
- Wabash Avenue
- Michigan Avenue

NextLink representatives in Chicago stated that the company can now serve LATA 358 but does not intend to expand beyond this area for the next two years.

FIBER SPECIFICATIONS

In Chicago, all of NextLink's existing facilities are constructed with optical fiber cabling. Though NextLink's network backbones are typically made of 144-strand fiber optic cables,

backbone fiber density may range from 72-240 strands. Along smaller spurs and distribution routes, NextLink may deploy fiber with as few as 12 elements.

Virtually all fiber installed in the greater Chicago area is single mode fiber produced by Corning-Hazelton; however, NextLink may use dual mode fiber in the construction of long haul facilities and in building risers. Although NextLink tends to use a combination of underground and aerial fixtures, all of its fiber in the downtown Chicago is buried in underground conduit space. It is likely to employ aerial fixtures to bring fiber to more isolated suburban areas in the near future, however.

NETWORK EXPANSION PLANS

NextLink's Chicago network is in the buildout phase of its lifecycle. In 1998 the company laid 110 route miles of fiber, and with its propensity for building geographically vast networks, NextLink is likely to continue adding extensive fiber in the coming months. In fact, Chicago NextLink personnel stated that they was currently deploying a new SONET ring. Operating at a transmission speed of OC-48, the new ring is expected to be operational by the second quarter of 1999. Though company officials would not comment on the specific areas served by their network, they stated that NextLink would remain solely focused on LATA #358 in the Chicago area for the next two years.

TARGETED BUILDINGS

Though unwilling to provide a list of their targeted buildings, NextLink representatives revealed that the company has spent a substantial amount of time researching Chicago-area buildings and has targeted several hundred that it would like to connect to its network over the next few years. Targeted buildings are typically within one block of NextLink's downtown fiber loop. This is the prime district in the greater Chicago area to generate switched services and (especially) HICAP revenues.

NETWORK ELECTRONICS AND INFRASTRUCTURE

To route local, intraLATA toll, and long distance traffic on its Chicago network, NextLink uses a Class 5 Nortel DMS 500 central office switch located in Woodale. NextLink tends to rely on Nortel equipment to form the base of its switching platform in nearly all of its local markets. It purchases the following pieces of equipment for use in greater Chicago:

- Nortel DMS 500 Central Office Switch
- Nortel Access Node equipment
- Cisco Routers
- Nortel multiplexing equipment

TELIGENT CHICAGO

NETWORK ARCHITECTURE

A latecomer to the Chicago market, Teligent intends to gain market share through its technologically advanced, high bandwidth digital wireless technology complemented by superior customer service and competitive pricing. Teligent installed a Nortel DMS 500 switch in the River Center Building in August, 1998 and began offering service in October, 1998.

Similar to WinStar, Teligent operates a fixed wireless network in which voice, data, and video are transmitted over high frequency radio waves instead of fiber and copper. The fixed wireless approach to provisioning local switched telecommunications services offers many advantages, including:

- **Lower Network Costs** – Since it does not have to buy and install fiber, Teligent eliminates an enormous cost that the typical CLEC has to carry.
- **Success-Based Capital Investment** – Unlike the older, fiber-based CLECs that had to build their networks before they could sell services, most of a fixed wireless network's capital investment is in customer equipment which is not purchased until a contract is signed. This eliminates most of the risk of capital investment.
- **End-to-End Network Control** – With the relatively simple and inexpensive installation of a customer antenna, Teligent gains control of its customers entire circuit. This not only reduces Teligent's costs, but enables the company to provide better customer services.
- **Speed to Market** – By eliminating the necessity of laying fiber, Teligent can provide service much more quickly than the typical CLEC.
- **Flexible Network Equipment Configurations** – Again, because it is not tied to fiber that is either buried in the ground or strung along poles, Teligent can easily shift its network resources to meet the changing needs of the market.
- **Greater Reliability** – Unlike fiber-based networks that are constantly at risk of being disrupted by digging equipment or falling trees, radio waves cannot be cut or broken.

Teligent's network enjoys two distinct advantages over WinStar's. First is the fact that Teligent's network is built on a point-to-multipoint technology whereas WinStar's is point-to-point. A wireless point-to-multipoint broadband network allow transmissions between multiple customer antennas and a single base station antenna, thereby allowing Teligent to share the same spectrum among its customers and reducing its capital expenditures. The base station antenna gathers signals from a cluster of surrounding customer buildings, aggregates the signal and then routes them to a Teligent broadband switching center. Secondly, Teligent is licensed to provide its service at a frequency of 24 GHz. This lower frequency can transmit a line of sight signal

approximately 3 miles – twice as far as WinStar's 38 GHz technology. Obviously, this gives Teligent twice as much network reach with the same capital investment.

FIBER SPECIFICATIONS

Teligent has been awarded licenses for 320-400 MHz of spectrum in 27 of the 35 most populous market areas in the United States, and at least 80 MHz of spectrum in 47 other major market areas. With this spectrum allocation, Teligent can provide each customer with two-way data transfer rates up to 20 Mbps, which is significantly more than the 1.5 Mbps capacity currently available on conventional T-1 lines. A single Teligent base station is designed to provide 200 T-1 lines, the equivalent of 4,800 dedicated telephone lines, while each building's radio/antenna unit will be initially designed to provide up to 13 T-1 lines or 312 dedicated telephone lines.

NETWORK EXPANSION PLANS

As suggested above, a key element of Teligent's overall business strategy is to minimize its risk and capital expense by conducting success-based network expansion. Essentially, the company will set up a base station in a targeted geographic region and then market its services to businesses within the approximately three-mile radius coverage area of the base station. As Teligent acquires customers, it will purchase and install the necessary customer transmission equipment. Teligent targets small and medium sized businesses and offers up to 30% discounts off RBOC prices for local, long distance, and Internet services.

TARGETED BUILDINGS

Teligent sales representatives did not disclose a list of targeted buildings; however, the company has indicated that it believes its lower cost structure will allow it to economically access smaller buildings and more customers than fiber-based systems.

NETWORK ELECTRONICS AND INFRASTRUCTURE

To route local traffic on its Chicago network, Teligent uses a Class 5 Nortel DMS 500 central office switch located on the fifth floor of the River Center Building in Chicago. Along with the switch, Teligent uses ATM switches and data routers to hand off traffic to the public-switched voice network, the packet-switched Internet, and private data networks.

ON-NET BUILDINGS

Following is a partial list of WinStar's on-net buildings.

ADDRESS	INITIAL REPORT
123 W Madison Chicago	3Q98
118 S Clinton Chicago	3Q98
400 Skokie Blvd Northbrook	3Q98

ALLEGIANCE CHICAGO

NETWORK ARCHITECTURE

Allegiance is representative of a new breed of CLECs that have built their business strategy on the unbundled network elements provisions of the Telecommunications Act of 1996. Rather than making the heavy (and risky) investment required to build a fiber network, Allegiance enters a market by turning up a switch and offering Type II services. Focusing on small to medium sized businesses, Allegiance believes it can lure away customers from the ILECs by offering superior customer service and one-stop-shopping consisting of a comprehensive package of communications services with convenient integrated billing and a single point of contact for sales and service. Once it has sufficiently established its business within a market, Allegiance intends to build its own fiber network segments where traffic volume justifies the expense.

Allegiance management believes that pursuing this "smart build" approach will:

- Accelerate market entry by 9 to 18 months by deferring the need for city franchises, rights-of-way and building access;
- Reduce initial capital requirements for individual market entry prior to revenue generation, allowing the company to focus its capital resources on the critical areas of sales, marketing, and operations support systems,
- Provide for ongoing capital expenditures on a "success basis" as demand dictates; and
- Allow the Company to address attractive service areas selectively throughout its targeted markets.

Unlike the typical CLEC network architecture that begins with a ring in the downtown business district and then slowly expands to the suburbs, Allegiance's fiber network will begin to grow around the company's heavy traffic areas – even if those are randomly scattered throughout the metro – and then gradually begin to fill in the "empty spaces."

NETWORK EXPANSION PLANS

Allegiance representatives did not disclose any of the company's specific network expansion plans for Chicago; however the following items are key elements of Allegiance's overall network expansion strategy:

- Utilize "Smart Build" Strategy to Maximize Speed to Market and Minimize Investment Risk: Allegiance typically deploys digital switching platforms with local and long distance capability and initially leases fiber trunking capacity from the ILECs and other CLECs to connect the company's switch with its transmission equipment collocated in ILEC central offices. Thereafter, Allegiance evolves its networks to the next stage of the "smart build" strategy, leasing dark fiber or overbuilding specific network segments as economically

justified by traffic volume growth. Allegiance expects that this "smart build" strategy will allow entry into a new market in a six- to nine-month time frame as compared to the 18 to 24 months required to construct a metropolitan area fiber network under the "build first, sell later" approach required before the Telecommunications Act established a framework for CLECs to acquire unbundled network elements. The company believes that this "smart build" approach has the additional advantage of reducing up-front capital requirements.

- **Achieve Broad Coverage of Attractive Areas within Each Targeted Market:** As a result of the substantial up-front capital requirements necessary to construct metropolitan area fiber networks, CLECs have traditionally limited their initial network buildout to highly concentrated downtown areas, thereby limiting their ability to provide service to customers in other attractive, but geographically dispersed, portions of their targeted markets. Allegiance will instead try to leverage the benefits of using a "smart build" strategy by selectively deploying its facilities to address attractive service areas throughout each target market in order to optimize the company's penetration.

NETWORK ELECTRONICS AND INFRASTRUCTURE

Allegiance installed (and now operates) a Lucent 5ESS switch in the Chicago area in the third quarter of 1998. This switch is located at 140 South Dearborn Street.

APPENDIXCAP/CLEC SWITCHES

The following CAP/CLEC switches are located in the Chicago area:

Chicago				
CAP/CLEC	Switch Type	Location	Install Date	Status
MCI WorldCom Chicago	Ericsson AXE	800 South Wells	3 Qtr. 1993	Active
	Nortel DMS-100	Elk Grove Village	3 Qtr. 1997	Active
	Nortel DMS-100/200	Elk Grove Village	Unknown	Active
AT&T Local Chicago	Lucent 5ESS	717 South Wells St.	4 Qtr. 1994	Active
	Lucent 5ESS	Downtown	3-4 Qtr 1998	Planned
	Lucent 5ESS	Rolling Meadow	3-4 Qtr 1998	Planned
	Lucent 5ESS	Oakbrook	3-4 Qtr 1998	Planned
WinStar Chicago	Lucent 5ESS	Downtown	2 Qtr 1997	Active
NextLink Chicago	Nortel DMS-500	Woodale	1 Qtr 1998	Active
Allegiance	Lucent 5ESS	140 South Dearborn	3 Qtr 1998	Active
Teligent	Nortel DMS-500	River Center Building (5 th floor)	3 Qtr 1998	Active