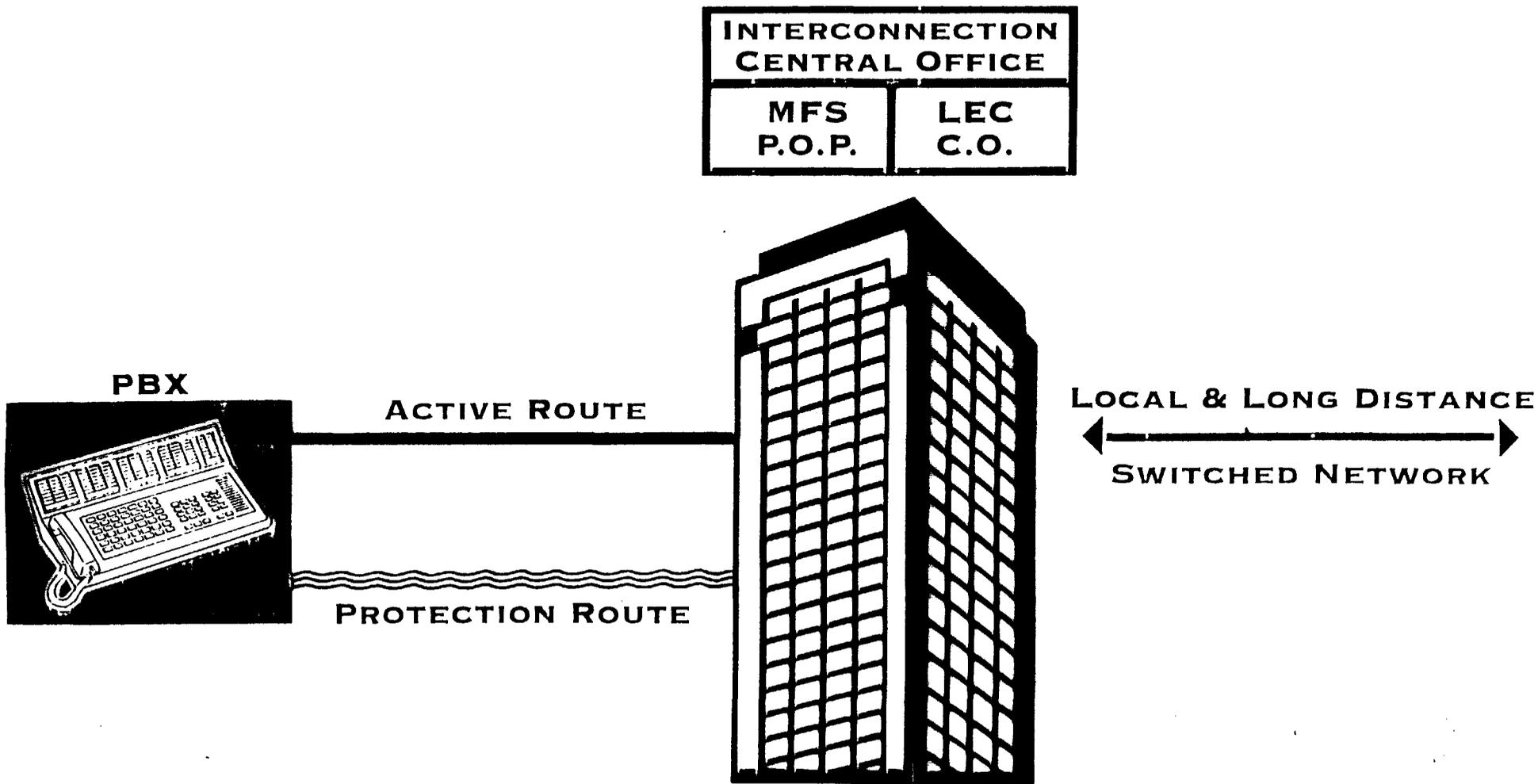
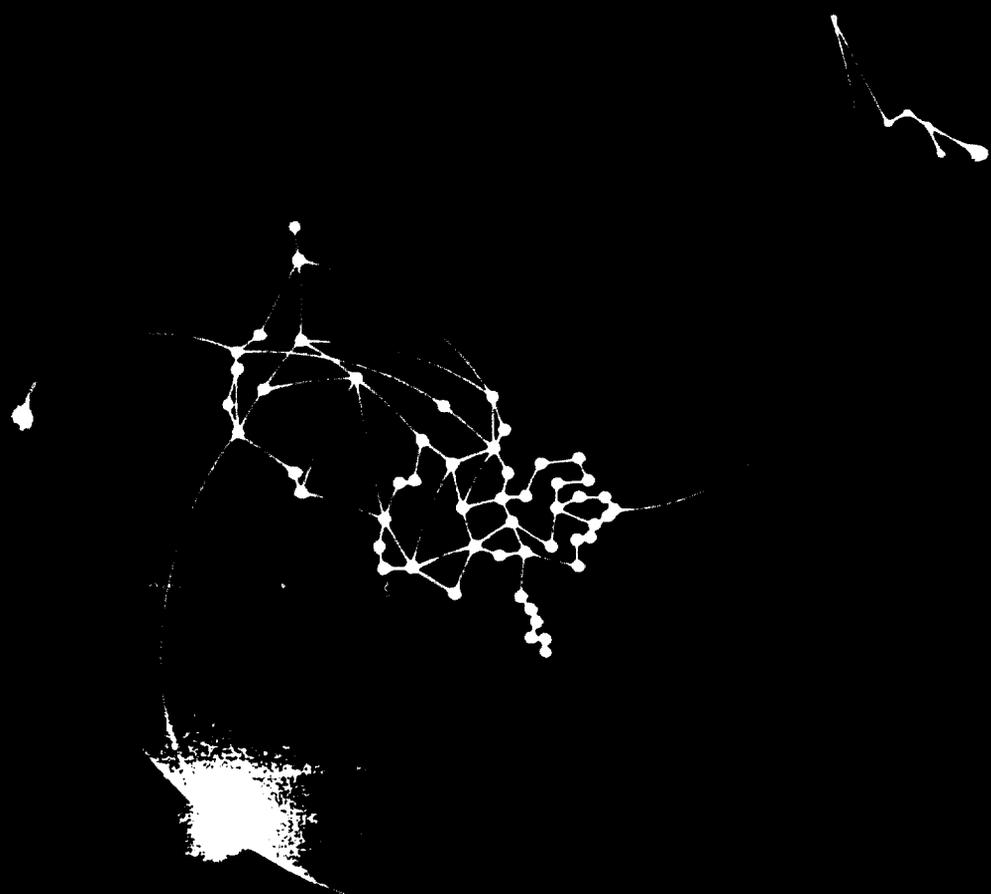


# METROFIBER DS-1 C.O. CONNECTION





**M/S** TELECOM, INC.



choice



M.F.S. TELEPHONE

For years, large businesses bought all of their local telecommunications services from the local telephone company monopoly. They had no choice.

But in 1987, MFS Communications Company, Inc. (MFS) emerged, offering businesses an alternative for special access telecommunications services using the company's advanced digital fiber optic networks.

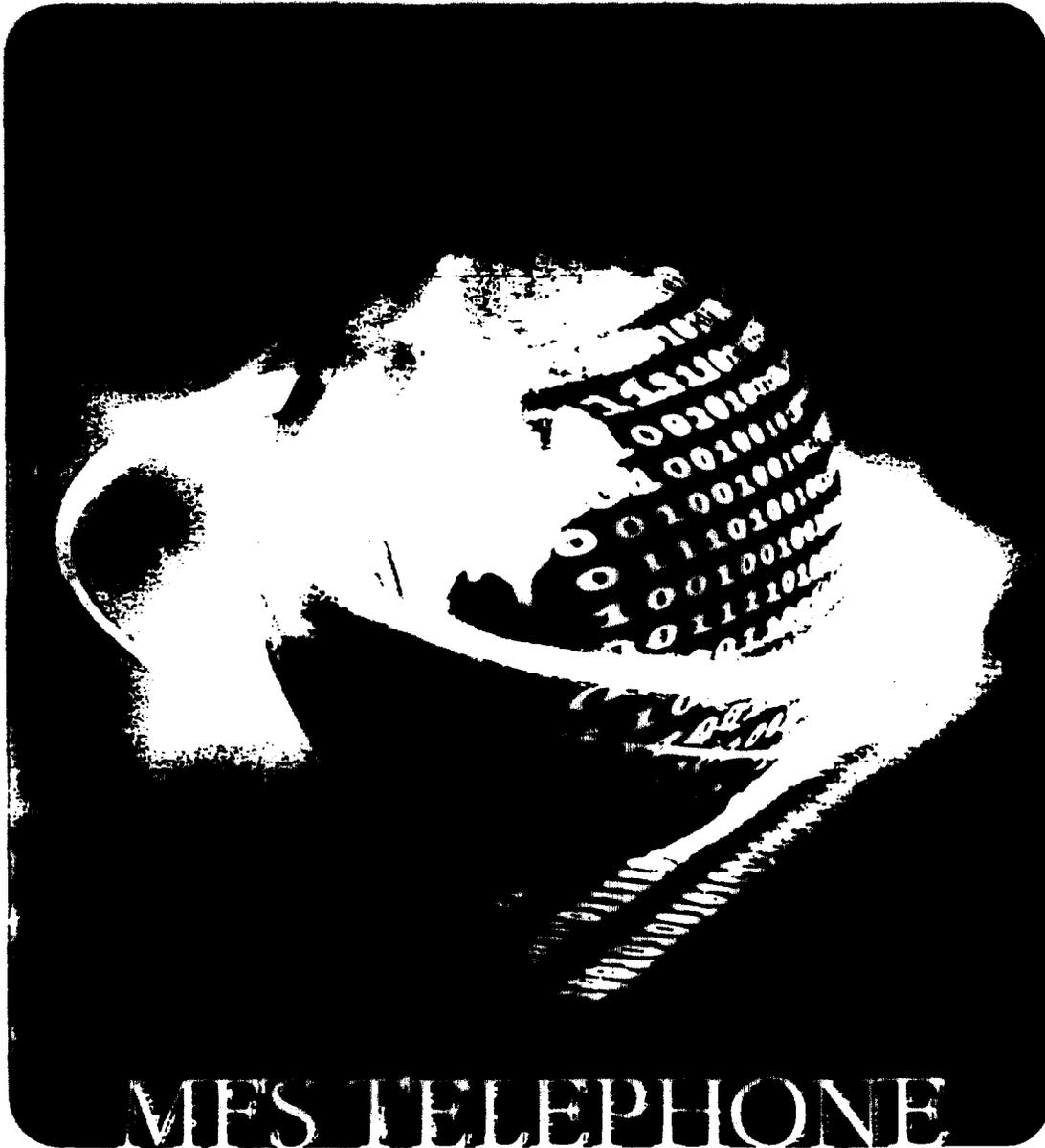
MFS did not stop there. The company pushed hard on state and federal regulatory fronts for true local telephone services competition—that is competition for switched services as well as special access services.

Today, MFS Telephone, Inc., an arm of MFS, offers an alternative to the switched services provided by the traditional monopoly carriers.

MFS' push for competition has spawned a new era in telecommunications—an era no longer dominated by a stodgy monopoly. Now businesses can choose a progressive telephone company that puts customers first.

***"MFS has enabled us to provide our customers with highly robust, high-speed services."***

***John Sidgmore, President, UUNET Technologies, Inc.***



## MFS TELEPHONE

*"MFS has demonstrated exceptional service and reliability to Brooks Brothers over the past three years. Their presence in the local access market will continue to drive quality up..."*

*Joseph McCourt, Director of Communications, Brooks Brothers*

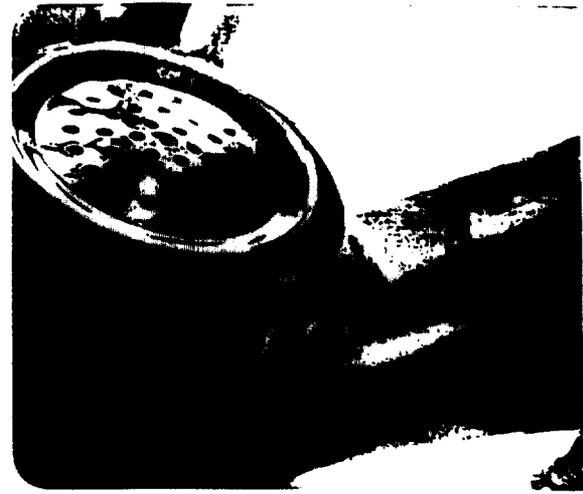
All MFS Telephone services are provided over 100% digital fiber optic networks built by MFS. Customers' communications travel over two physically separate fiber paths, so that service won't be lost in the event of a cable cut. In addition, MFS backs up all of the electronic equipment it uses.

MFS' switching equipment is also state-of-the-art, providing the flexibility to satisfy our customers' critical requirements which are dependent upon the power and feature capability inherent in our networks.

The services that MFS Telephone provides are more reliable and cost less than most local telephone companies. Our services include: Basic Business Lines, Digital and Analog PBX Trunks, Digital and Analog D/D Lines, Long-Distance Carrier Access, Local and Intra-LATA Toll, and International Long-Distance Services.

All of MFS' networks are monitored at our customer support center 24 hours a day, 365 days a year. Knowledgeable technicians monitor the networks, often correcting problems before they have a chance to affect customer traffic. The technicians are also available to answer any questions customers may have regarding their service.

At MFS Telephone, we develop customer-oriented solutions by listening and responding to our customers, but most importantly, we give customers a choice.



***"Listening to customers must become everyone's business. With competitors moving ever faster, the race will go to those who listen and respond most intently."***

***—Tom Peters, Thriving on Chaos***



**Vision**  
without action  
is dreaming.  
**Action**  
without vision  
is random activity.  
Vision & Action  
together can change

*Joel Barker, Futurist*

MFS Telephone, Inc. One Tower Lane Suite 1600 Oakbrook Terrace, Illinois 60181 708 218 7200

# MFS International

## INTERNATIONAL BUSINESS LINK (IBL)

International Business Link Service provides multinational companies connections between international locations, allowing businesses to transmit voice, data and video. MFS Business Link Services are supported by a 100% fiber optic network, and because MFS International provides the connectivity to your door, we're the first company that can provide a true end to end service.

## DS-1 OR E-1

For companies with international requirements for voice, data and video, DS-1 or E-1 is commonly used for international private line applications, they provide the digital fiber optic medium to support all dynamically changing network needs.

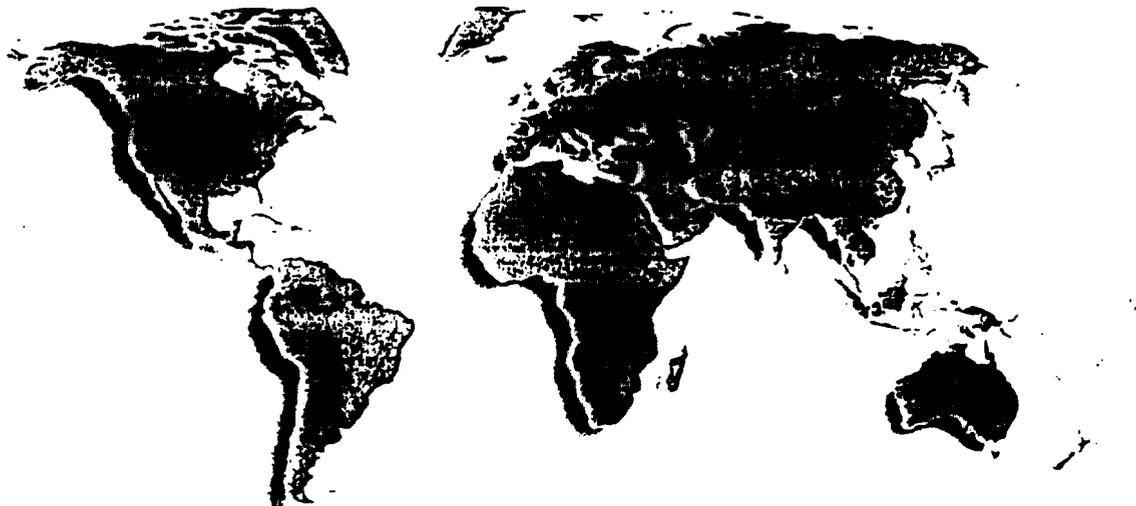
- DS-1 is a digital transmission facility with a capacity of up to 24 analog or digital channels that supports voice, analog data, digital data and video applications. Commonly used for PBX and T-1 multiplexed (Channel Bank) applications in North America.
- E-1 is a digital transmission facility with a capacity of analog or digital channels that support voice, analog data, digital data and video applications. Commonly used for international private line applications.
- 100% digital fiber optic transmission.
- Point-to-point service, we manage the service end-to-end.

## MANAGED FRACTIONAL SERVICE

MFS International's Fractional Service provides superior digital quality transmission at a competitive price. This service is appropriate for companies requiring clear channels for digital data, voice or video. Our Fractional Service is available at intermediate bit rates (IBR), in increments of 64 Kbps, e.g. 128 Kbps, 256 Kbps, 384 Kbps, 512 Kbps and 768 Kbps and can be tailored to meet your individual requirements. In the event of a fiber cable failure, all Fractional Services are automatically rerouted within seconds.

## UNSURPASSED RELIABILITY

- In the event of a disaster, all of our digital fiber optic networks provide automatically activated back-up electronics and power, as well as diverse fiber optic routes between each network location and private cabling systems for internal building distribution.
- Network reliability exceeds 99.95%.
- Highly skilled technicians are available 24 hours a day, seven days a week.
- Our customer service standards lead the industry with average circuit repair intervals of two hours or less.



# Network Operations Control Center (NOCC)

The Network Operations Control Center (NOCC) is the nucleus for all circuit management on the MFS Telecom networks nationwide.

## AROUND-THE-CLOCK TECHNICAL SUPPORT/SINGLE POINT OF CONTACT

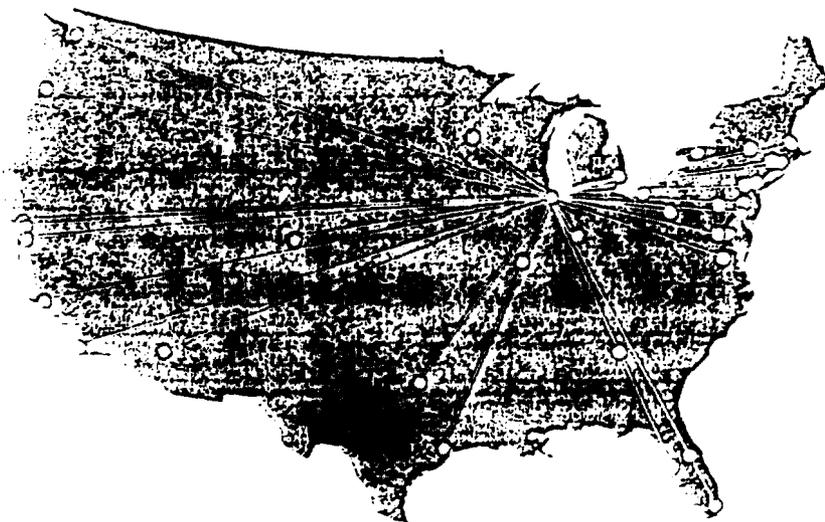
Highly skilled technicians work around-the-clock to ensure superior communications service. In the event of a degradation or interruption of service, immediate technical assistance is available 24 hours a day to MFS Telecom customers. By dialing 1-800-MFS-CITY, customers will directly reach a Network Operations Control Center (NOCC) technician. This skilled professional has the knowledge to troubleshoot, diagnose and solve problems and to provide updates on the status of service reports. An escalation procedure ensures that any network problem is resolved to the customer's satisfaction.

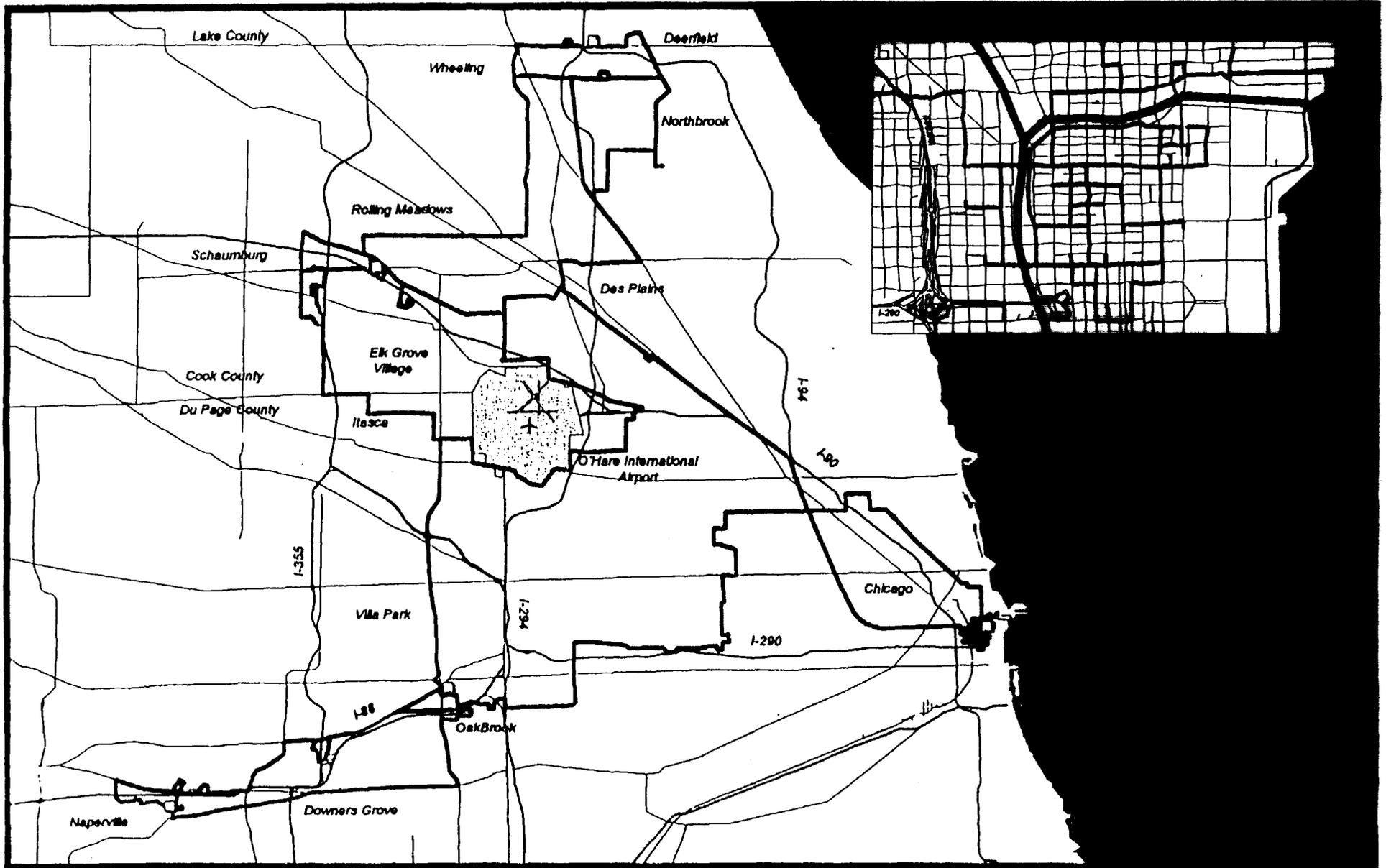
## SERVICE RESTORATION STANDARDS

MFS Telecom network service performance leads the industry. Operations personnel are committed to resolving any network outage in less than 90 minutes, well below the industry average.

## REMOTE DIAGNOSTIC CAPABILITIES

The NOCC provides a full range of network surveillance functions for every transmission system MFS Telecom operates. System alarms are usually detected within 60 seconds and equipment problems that occur anywhere on the MFS Telecom Network can be tested from the NOCC located at MFS Telecom Headquarters in Oakbrook Terrace, Illinois. The NOCC surveillance equipment is so precise that more than 25% of circuit troubles are initially detected by MFS Telecom Technicians, reported to the customer and resolved before the customer has even noticed a problem. In many cases, no customer outage actually occurs. MFS Telecom's fault tolerant networks sense problems as they occur and switch over to redundant facilities within 50 milliseconds. The NOCC then coordinates repairs resulting in no disruption of service.





 MFS NODE LOCATION

# Greater Chicago Network

*Downtown Office:*  
 130 East Randolph Street  
 Suite 200  
 Chicago, Illinois  
 312-946-0060

**MFS** TELECOM, INC.

*Suburban Office:*  
 Three Continental Towers  
 1701 Golf Road, Suite 109  
 Rolling Meadows, Illinois 60008  
 708-228-4910

# MetroFiber Digital Services

Supported by the 100% digital fiber optic network, MFS Telecom's MetroFiber Digital Services provide the highest service standards connecting customers to long distance carriers or two separate locations on an MFS Telecom network. All MFS Telecom digital networks provide Automatically Activated Back-up Electronics and Power along with Two Diverse Fiber Optic Routes between each network location for disaster protection, plus Private Cabling Systems for internal building distribution. MFS Telecom networks Exceed Reliabilities of 99.99% and are monitored 24 hours a day.

## METROFIBER DIGITAL DATA SERVICES

Designed for companies that require a Digital Data Service (DDS) channel for digital data applications, MetroFiber DDS is the preferred product for transitioning analog data networks to digital and provides transmission speeds of 2.4, 4.8, 9.6, 19.2, 56 and 64 Kbps.

## METROFIBER ANALOG

MetroFiber Analog service will enhance 2-wire and 4-wire voice or analog data applications by providing a single channel transmission path. This service is compatible with either 2-wire ground and loop start equipment or 4-wire E/M signalling equipment. The 4-wire service supports analog data transmission speeds of up to 19.2 Kbps.

## METROFIBER FRACTIONAL T-1

For companies requiring a 56 Kbps or 64 Kbps clear channel for digital data, voice or video, MetroFiber Fractional T-1 provides superior digital quality at a competitive price. Fractional T-1 is available at intermediate bit rates (IBRs), in increments of either 56 Kbps or 64 Kbps, e.g. 128 Kbps, 256 Kbps, 384 Kbps, 512 Kbps and soon up to 1.544 Mbps, and can be tailored to meet individual customer requirements.

## METROFIBER E-1

For companies with international requirements for voice, data, and video, MetroFiber E-1 provides a digital transmission facility of 2.048 Mbs. MetroFiber E-1 is commonly used for international private line applications, and provides the digital fiber optic medium to support all dynamically changing networking needs.

## METROFIBER DS-3

For companies and long distance carriers requiring up to 28 DS-1s between two locations on the MFS Telecom network, MetroFiber DS-3 (45 Mbs) service provides economy and flexibility with a capacity for 672 voice, analog, or digital data channels. A single 45 Mbs transmission path supports broadband requirements.

## METROFIBER DS-1

MetroFiber DS-1 is a digital transmission facility of 1.544 Mbps with a capacity of up to 24 channels that support voice, analog data, digital data, and video applications. Commonly used for PBX and T-1 multiplexer (Channel Bank) applications, the DS-1 provides the digital fiber optic medium to support all dynamically changing networking needs.

## METROFIBER MULTIPLEXED DS-1

Multiplexed DS-1 delivers 24 voice, analog data, or digital data circuits to the originating demarcation point and a DS-1 to the terminating demarcation point. MFS Telecom dedicates a T-1 multiplexer and DS-1 for a company's exclusive use. The T-1 multiplexer can be configured for the individual voice, analog or digital data channels to be terminated to the customer's voice, data, or video equipment.

## METROFIBER DS-1 HUB

The MetroFiber DS-1 Hub is designed for companies and long distance carriers that require an individual collection or distribution of up to 24 analog or digital channels to multiple locations on the MFS Telecom network. The MFS Telecom DS-1 Hub to DS-0 Digital Cross Connect System (DCCS) offers users the efficient and cost effective local distribution of voice, analog and digital data.

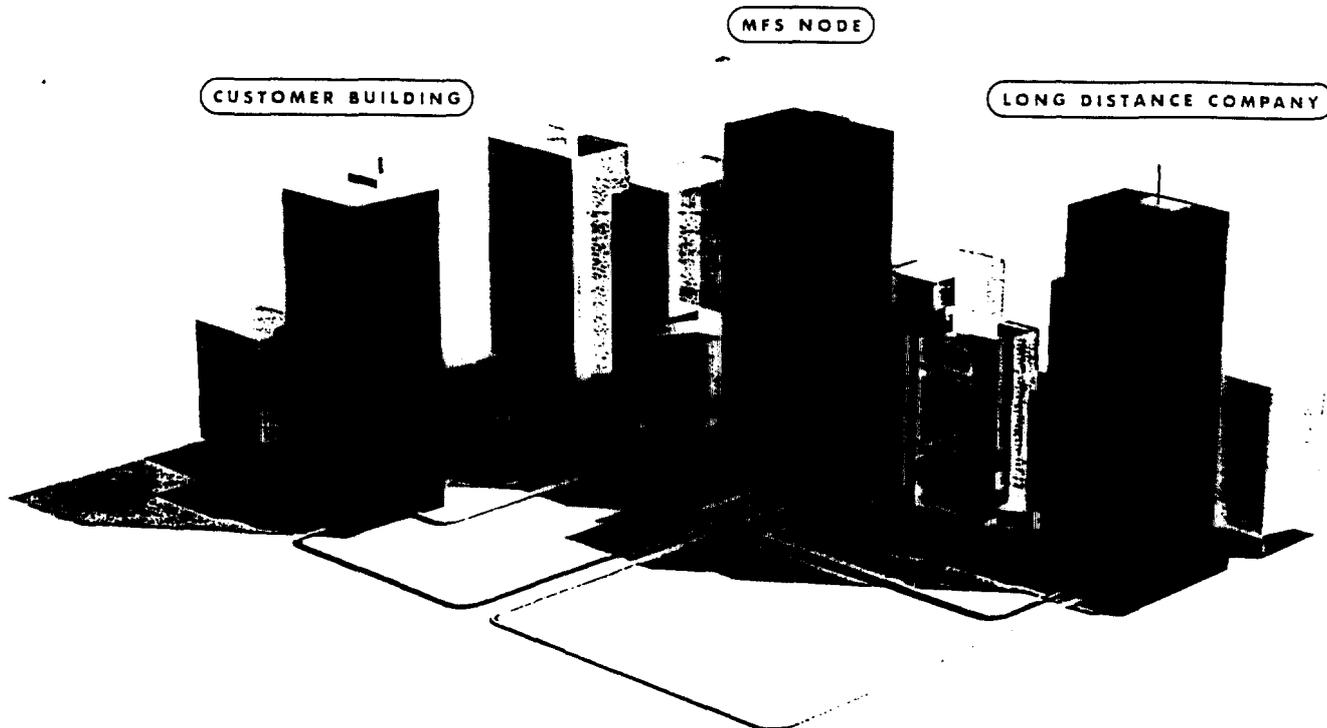
## METROFIBER DS-3 HUB

MetroFiber DS-3 Hub supports large customers and carriers with DS-1 requirements to multiple locations on the MFS Telecom network. MetroFiber DS-3 Hub is designed for individual collection or distribution of up to 28 DS-1s to multiple locations on the network. Key service features include flexibility, economy, and quick installation intervals.

## METROFIBER SONET

For companies with multiple sites requiring truly fault tolerant private networks, MetroFiber SONET services deliver transmission payloads ranging from STS-1 to OC48.

Typical local access connectivity in all cities served by MFS



> **FEATURES**

100% Digital Fiber Optics Route Diversity • Electronics and Power Redundancy • Reliabilities in Excess of 99.999% • 24-Hour Monitoring • Protected with Inert Gas Fire-Suppression Systems • Superior Customer Service Standards • Voice, Data and Video Services • Responsive Customer Solutions • 3-11 Day Installation Intervals • 90 Minutes or Less Circuit Repair Intervals • Competitive Pricing

## FACT SHEET

# MFS Telecom

MFS Telecom is the nation's leading competitive local access provider of voice, data and video communications services, serving major metropolitan business centers throughout the U.S. MFS Telecom provides the highest quality local access connections available on 100% fiber optic networks, plus superior service, reliability and value. MFS Telecom is currently operational or has a network under development in Albany, Atlanta, Baltimore, Boston, Buffalo, Chicago, Cleveland, Dallas, Denver, Hartford, Houston, Indianapolis, Los Angeles, Miami, Minneapolis, New York City, Northern New Jersey, Oakland, Orlando, Philadelphia, Phoenix, Pittsburgh, Portland, Rochester N.Y., San Francisco, San Diego, San Jose-Silicon Valley, Seattle, St. Louis, Tampa, Washington D.C., White Plains N.Y., and Wilmington, DE.

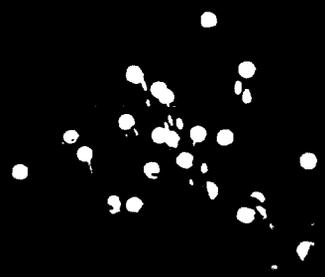
### SERVICE BENEFITS

- Responsive and Tailored Customer Solutions provided by MFS Telecom's highly skilled service organization.
- Superior Customer Service Standards, including service installations intervals of usually 3 to 11 days or less and circuit repair intervals of 90 minutes or less.
- Complete Network Security and Protection provided by 24 hour network surveillance from the MFS Telecom Network Operations Control Center (NOCC) and Inert gas fire suppression systems installed at each MFS Telecom local operations center.
- Diversified line of products and services including:
  - > **METROFIBER DIGITAL SERVICES™**  
Product line: Voice Grade, Analog Data, Digital Data (including DDS), Fractional DS-1, DS-1, DS-3, E-1, Hubbing and Multiplexing services.
  - > **METROFIBER-INTERCONNECTION SERVICES**  
Provides off-net customers access to the MFS Telecom Networks through the regional Bell Company Central Office.
  - > **METROFIBER NETWORK RECONFIGURATION AND MONITORING SERVICE (NRMS)**  
Enables customers to reconfigure and monitor their own network facilities by accessing the MFS Telecom Digital Cross Connect System (DCCS).
  - > **ANALOG & DIGITAL VIDEO SERVICES**  
Designed for companies with a requirement for the highest possible quality in transmission of television programming over fiber optic networks.
  - > **SONET BASED SERVICES FROM ST-1 THRU OC-48**  
Self-healing network architecture which can provide access to new high bandwidth applications.

### TECHNICAL BENEFITS

- Error-Free Transmission ensured by 100% digital fiber optics in all MFS Telecom networks.
- Network Availability in excess of 99.99% and Disaster Protection provided by:
  - > **ROUTE DIVERSITY**  
Customers serviced by a physically diverse network path.
  - > **ELECTRONICS REDUNDANCY**  
Redundant electronics ensure immediate backup of electronic components at each MFS Telecom building in the event of an equipment failure. If a failure should occur on a primary route or system, the network will automatically switch to the backup route in less than 50 milliseconds.
  - > **24-HOUR MONITORING**  
Monitoring of each local network with a state-of-the-art network management system. Often circuit trouble is detected and resolved by an MFS Telecom technician before the customer even notices a problem.

*MFS Telecom, Inc. One Tower Lane Suite 1600 Oakbrook Terrace, Illinois 60181*



THE NATIONAL LEADER  
IN COMPETITIVE  
ACCESS AND  
TRANSPORT SERVICES

MFS Telecom, Inc. (MFS) is the *largest and leading* national provider of competitive access and local private line telecommunications services for business and government.

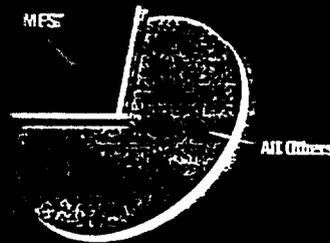
The company pioneered the concept of local access services on a nationwide basis and today has constructed over 1,000 route miles of fiber optic network, serving several thousand customer locations, in fourteen major markets nationwide.

According to a recent Federal Communications Commission (FCC) study, MFS leads all other Competitive Access Providers in the four most significant levels of measurement: route miles, fiber miles, number of customer buildings served and number of customer locations.

Today, more customers can choose MFS as their primary carrier to access long distance carriers or to connect various user locations because MFS is the only company that provides coverage in all seven of the Regional Bell Operating Company territories.

The company continues to launch networks in new cities and to expand networks and services in existing cities and surrounding suburbs to further satisfy customer needs. For example, in one recent six month period, MFS added two new cities to its network, began expansions to networks in Dallas, Los Angeles and New York City, and completed expansions in Chicago, Houston and Washington, D.C.

ROUTE MILES



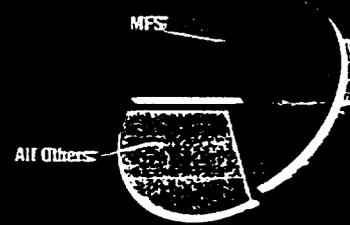
FIBER MILES



BUILDINGS SERVED

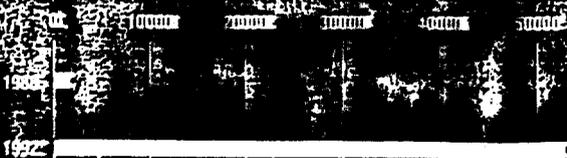


CUSTOMER LOCATIONS



ON A VIRTUALLY EVERY SIGNIFICANT LEVEL OF MEASUREMENT, THE FEDERAL COMMUNICATIONS COMMISSION (FCC) HAS RECOGNIZED MFS AS THE LARGEST COMPETITIVE ACCESS PROVIDER IN THE COUNTRY.

FIBER MILES



ROUTE MILES



MFS CONTINUES TO EXPAND AND IMPROVE ITS NETWORKS TO BETTER SERVE EXISTING AND NEW CUSTOMERS.

**SERVICE LEADERSHIP  
FOR CUSTOMERS  
FIRST IN  
TELECOMMUNICATIONS  
PERFORMANCE**

MFS is widely viewed as the industry leader in setting and achieving superior performance levels. In a comparison of specific service data submitted by the Bell Operating Companies (BOCs) to the FCC and the U.S. House of Representatives, MFS out-performs all BOCs in every region on virtually all important measures.

MFS also continues urging federal regulatory agencies to set high established standards for telecommunications companies so that customers can more accurately gauge a provider's performance and select the company that best meets their service needs.

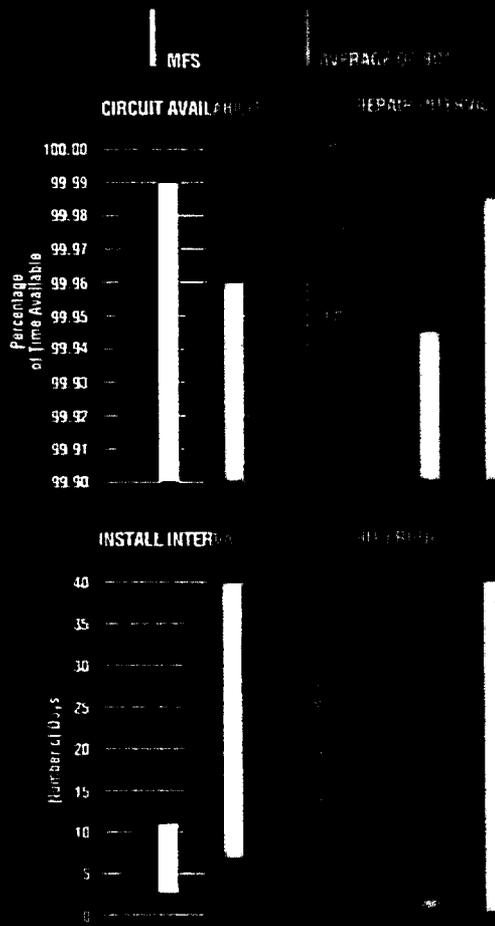
**Installation Interval** - MFS guarantees standard or custom service installation in only three to eleven business days. This is generally a much higher standard than the BOCs. For existing customers, MFS often provides same day service. In today's competitive environment, customers cannot afford lengthy delays and the resulting loss of revenues in bringing their business up to the desired level of service.

**Repair Interval** - MFS' standard repair interval of 90 minutes exceeds BOC standards. No longer does a business have to suffer by waiting hours and hours for repairs. In fact, actual repair intervals show that for MFS' DS-3 and DS-1 customers, repair intervals range from just 23 minutes to 56 minutes.

**Network Availability** - The MFS standard for circuit availability is in excess of 99.99% which translates into 53 minutes per year of outage time. In one recent three-month period, actual performance was 99.99898% for DS-1 service, or one minor outage of five

minutes or less during an entire year. Some BOC standards exceed over 24 hours of outages per year.

**Bit Error Rate** - The MFS standard for DS-3 service is only one bit error per 100 billion bits of information, while the highest BOC standard is one bit error per one billion bits of information. Several of the BOCs do not even report any standards at all.



"BEING A GOVERNMENT CONTRACTOR IS IMPERATIVE THAT WE CAN SECURE TRANSMISSION LINES 24 HOURS A DAY, 7 DAYS PER WEEK. MFS TELECOMMUNICATIONS INC. HAS PROVIDED US WITH THE SERVICE AND MOBILE SUPPORT WE NEED. ROUTING AND MONITORING SERVICES HAVE PROVEN TO BE ESSENTIAL."

PATTI WOLFF  
TELECOMMUNICATIONS CONTRACTOR  
FEDERAL RESERVE BANK

## DISASTER PROTECTION FOR COMMERCIAL AND GOVERNMENT NETWORKS

## REGULATORY LEADERSHIP PROVIDES EVEN MORE BENEFITS FOR CUSTOMERS

MFS is not in the business of disaster recovery. Instead, MFS provides disaster protection. Should disaster occur in the form of lightning, floods, fires, power failures, earthquakes or tornadoes, the MFS network automatically switches to its back-up route *in less than 20 milliseconds*. Typically, customers lose no information and users are unaware that a failure has occurred.

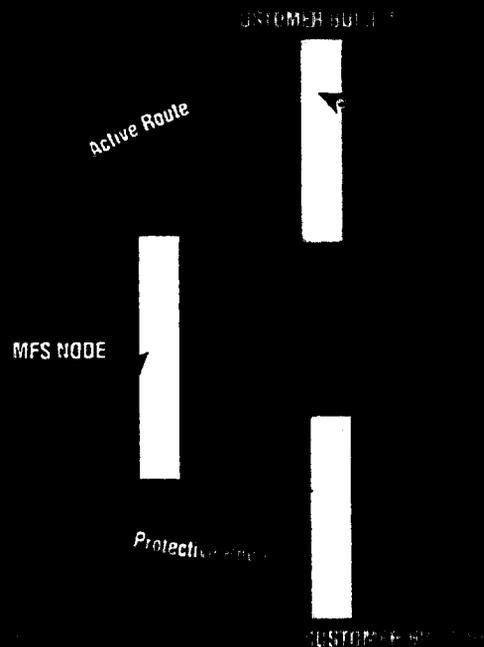
*The MFS network safeguards include:*

- Route diversity for disaster protection which enhances a customer's telecommunications by using two separate 100% fiber optic paths for traffic between buildings on the MFS network.
- Electronic redundancy which ensures the immediate backup of all electronic components in each MFS building to further solidify a customer's service continuation in the unlikely event of an equipment failure.
- The MFS Network Operations Control Center (NOCC) which monitors and provides immediate service 24-hours a day, 365 days a year, for all MFS network buildings. One phone call to 1-800-MFS-CITY, at any time day or night, connects customers to trained technicians who quickly respond to the situation.
- Total Quality Assurance Program which promotes continuous improvements within MFS, in all areas of sales, operations and service.

Businesses will realize more choices and improved service levels because MFS has led the industry in opening the local exchange marketplace to competition. The fact is, MFS launched the groundbreaking Local Equal Access Initiative, bringing it to the attention of the FCC. In September of 1992, as a result of MFS' initiative, the FCC ordered nationwide interconnection of telephone company and Competitive Access Provider networks.

MFS also has been active at the state level and has successfully made interconnection agreements for intrastate services in several key states.

While the marketplace is not yet fully competitive, MFS continues to push for expanded telecommunications choices for businesses in more and more areas of the country.



MFS continues to expand and enhance its product offerings by adapting the latest technology and creating individually tailored customer-based solutions. Customers can choose the services they require today and be assured that MFS, a full-service telecommunications company, will provide the services they will need for tomorrow.

MFS, a subsidiary of MFS Communications Company, Inc. (MFSCC), works in tandem with two other MFSCC affiliates – MFS Network Technologies, Inc., a major telecommunication systems integrator and facility manager and MFS Datanet, Inc., which provides advanced data communications services on a local and long distance basis. Through their combined efforts, MFS is able to provide customers with a complete range of business communications solutions, including voice, video, high-speed data and systems integration to help them better manage their communications needs.

*MFS' complete line of high-performance services include:*

• **MetroFiber® Digital Services.**

Designed to provide customers with a full array of high-quality digital services to reach their long-distance carrier or connect multiple user locations. The Digital Services line includes Digital Data and Analog services as well as services with DS-0, DS-1 to DS-3 capabilities and fractional T-1, E-1 international transmissions and broadcast quality video services.

• **MetroFiber® Interconnection Services.** MFS has pioneered and developed interconnection services to provide business connections between the BOC or independent telephone company network and MFS' 100% fiber optic network. Customers on an MFS network can also use MetroFiber Interconnection Services to increase their network security by using the diversely routed MFS network; either from their location to the BOC or independent telephone company central office for PBX trunks or to connect BOC Centrex services to long-distance carriers. These services are available in all areas where MFS has finalized interconnection agreements with Bell Operating Companies or independent telephone companies.

• **MetroFiber® Network Reconfiguration & Monitoring Service (NRMS).** MFS launched these services to enable customers to reconfigure and monitor their own network facilities, including analog, digital and DS-1 circuits. By accessing the MFS Network Management System, customers gain increased disaster protection and increased network efficiency.

• **High-Speed LAN Interconnection Services (HLI).** MFS and its affiliate MFS Datanet, Inc. pioneered and launched the first commercially available nationwide line of high-speed LAN connectivity services. With HLI services, corporate, medical and institutional customers can eliminate data bottlenecks, providing high-speed applications such as imaging, concurrent engineering and distributed computing.

HLI services provide interconnectivity between multiple Ethernet, Token-Ring and Fiber Distributed Data Interface (FDDI) LANs as well as high-speed performance computer systems. The services are available for metropolitan area (in city) and wide area (between cities) high-speed networking.

WE USE  
DIVERSE  
LOCAL TELECOMMUNICATIONS  
RELIABLE  
PROBLEM  
MORE TR  
ACCESS F

JOHN GARDNER  
TELECOMMUNICATIONS  
1984-1985

NEED  
HAN OUR  
AR MORE  
VOUNT OF  
MANY TIMES  
ERNATE



Learn how MFS fiber optic network technology, service and products can benefit you by exceeding your business communication needs — today and tomorrow. Contact MFS at your local city office listed below.

• ATLANTA  
404/393-9755 Fax 404/395-0466  
Six Concourse Parkway, Suite 2100  
Atlanta, Georgia 30328

• BALTIMORE  
410/733-5555 Fax 410/332-1453  
6 St. Paul Centre, Suite 1200  
Baltimore, Maryland 21202

• BOSTON  
617/345-0092 Fax 617/345-0697  
101 Federal Street, 17th Floor  
Boston, Massachusetts 02110

• CHICAGO  
312/946-0060 Fax 312/946-0265  
130 East Randolph Street, Suite 200  
Chicago, Illinois 60601

• DALLAS  
214/280-0225 Fax 214/280-0225  
1 Dallas Centre, 355 North St. Paul  
Suite 2950  
Dallas, Texas 75201

• HOUSTON  
713/236-3637 Fax 713/225-3516  
600 Travis Street  
Texas Commerce Tower, Suite 1950  
Houston, Texas 77002

• LOS ANGELES  
213/439-4637 Fax 213/469-3710  
300 West Sixth Street, Suite 1150  
Los Angeles, California 90017

• MINNEAPOLIS  
612/333-4000 Fax 612/338-0714  
920 Second Avenue South, Suite 1520  
Minneapolis, Minnesota 55402

• NEW YORK CITY AND  
NORTHERN NEW JERSEY  
212/425-2424 Fax 212/425-6575  
33 Whitehall Street, 20th Floor  
New York, New York 10004

212/768-4461 Fax 212/768-7393  
120 West 45th Street, 12th Floor  
New York, New York 10035

• PHILADELPHIA  
215/977-8500 Fax 215/569-1511  
1601 Market Street, Suite 2200  
Philadelphia, Pennsylvania 19103

• PITTSBURGH  
412/391-3636 Fax 412/391-6490  
1001 Liberty Avenue, Suite 700  
Pittsburgh, Pennsylvania 15222

• SAN FRANCISCO  
415/362-3300 Fax 415/362-2709  
444 Market Street, Suite 1350  
San Francisco, California 94111

• WASHINGTON, D.C.  
703/506-2000 Fax 703/247-3425  
8100 Boone Boulevard, Suite 500  
Vienna, Virginia 22132

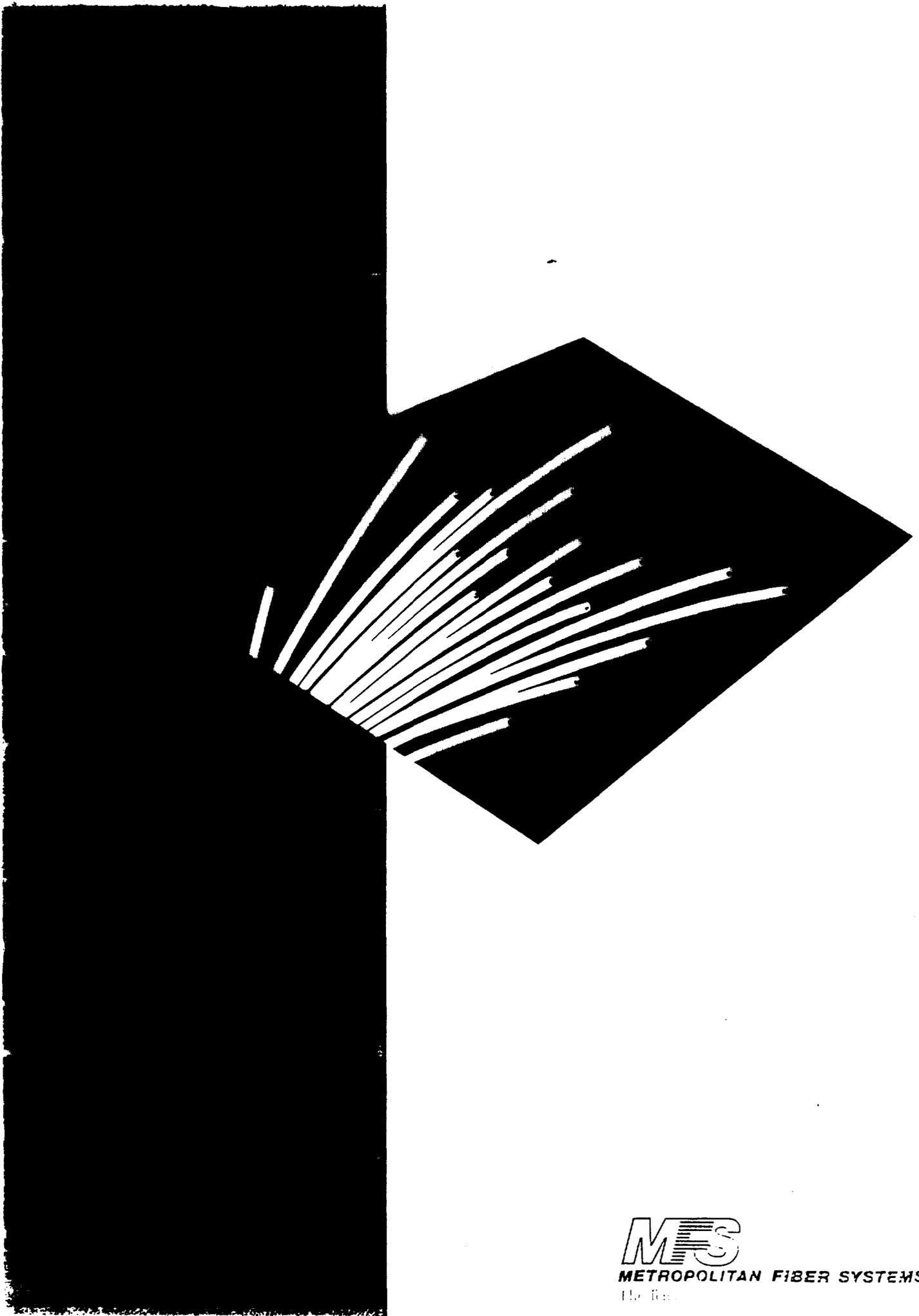
• CORPORATE HEADQUARTERS  
708/218-1000 Fax 708/218-2018  
1 Tower Lane, Suite 1600  
Oakbrook Terrace, Illinois 60181

MFS Telecom, Inc. is a subsidiary of MFS  
Communications Company, Inc.

*Affiliate Companies*

MFS DATANET, INC.  
408/975-2200 Fax 408/975-2210  
55 South Market Street, Suite 1250  
San Jose, California 95113

MFS NETWORK TECHNOLOGIES, INC.  
402/342-2052 Fax 402/271-2889  
1100 Kiewit Plaza  
Omaha, Nebraska 68131

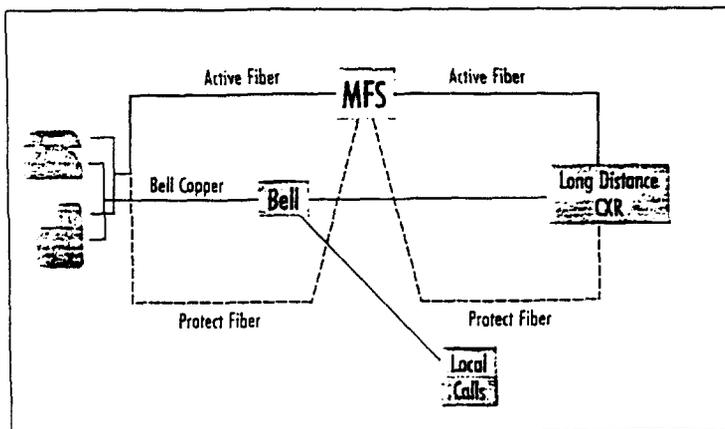


**MFS**  
METROPOLITAN FIBER SYSTEMS  
The fiber.

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## The Alternate Local-Access Service Your Tenants Can Rely On

Metropolitan Fiber Systems, Inc., is the nation's fastest growing multi-city alternate access provider. Using state of the art fiber optic technology, MFS offers dependable, high-speed digital access to virtually any long distance carrier your tenant chooses. — With full-service, round-the-clock protection, including built-in redundancy, the MFS network gives your tenants the kind of security and protection that is unparalleled in today's telecommunications networks. — MFS Alternate Local-Access Service is easy for tenants to obtain once MFS is connected to your building. All your tenants do is call 1-800-MFS-CITY and we do the rest. The good news is your tenant gains a high-tech competitive advantage which you make possible for him.



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## **MFS Works With You**

### **We Provide Complete Engineering Specs — The Building Manager Approves Each Step**

Prior to any construction, MFS will furnish complete engineered drawings—all at MFS' cost. These drawings will indicate where the equipment racks are to be installed, as well as ventilation and electrical service requirements. — This is the building manager's chance to review important details *before* work begins. Any modifications can be made at this time. The building manager's final approval must be given before installation work can start.

### **MFS Selects Electrical Contractor Approved By The Building Manager**

MFS will work with any qualified electrical contractor to install its cable and equipment racks. We prefer to work with the contractor who is most familiar with the methods, procedures, and requirements of your building.

### **The Installation Process**

Typically, MFS lays fiber cables under the street outside of each building. These cables are enclosed in a 1¼" diameter conduit and enter the building at the basement level. — The equipment site is normally a room of 75 to 100 square feet and is located near the core, basement risers or mechanical area of the building.

— Several metal equipment racks, each approximately two feet wide by one foot deep by seven feet high, are installed inside the equipment storage room.

— The entry fiber cable connects directly to the electronic apparatus housed on the equipment racks. — Finally, we install a connecting cable encased in conduit to the customer's premise.

## General Guide To Equipment Space Requirements

**Floor Area:**

Approximately 100 square feet

**Clear Ceiling Height:**

8'-0" finished floor to finished ceiling

**Location:**

Space should be located near building risers or other vertical access capable of receiving fiber cables from MFS right of ways.

**Electrical Service:**

- 1) Two (2) 20 amp dedicated circuits
- 2) One (1) 115 volt AC outlet
- 3) Central office or Hogan ground

**Security:**

Space to be secure from the possibility of tampering. Locked room or cage enclosure is preferable.

**Utilities:**

Avoid water lines, drain pipes, steam pipes or other liquid piping as much as possible.

**Access:**

Room should be accessible to MFS personnel 24 hours per day, 7 days a week, 365 days per year.

**HVAC:**

Ventilation is required for proper air circulation. Equipment space which is not served by customer's temperature control system will require proper ventilation and cooling to prevent unacceptable heat load buildup around equipment.

**Weight:**

Maximum weight of each rack is 355 lbs. which includes equipment.

Typical Layout And Minimum Clearances

