Corporate Offices:
100 Meridian Centre
Suite 250
Rochester, NY 14618

1. BACKGROUND AND SUMMARY OF NETWORK CAPABILITIES

1.1 Executive Summary

American Fiber Systems ("AFS"), a leading nationwide provider of fiber networks in second and third-tier U.S. cities, offers both "lit" and dark fiber services to its customers ("Customers"). AFS' lit services include its "Metro Ethernet Virtual Private Line Service" ("Metro EVPLS"),[1] a telecommunications service designed to connect Customers' Ethernet based local area networks ("LANs") to remote data centers, carrier points of presence ("POPs"), and Internet access[2] gateways. Metro EVPLS consists of three (3) different Ethernet based transport services: (i) Ethernet Virtual Private Line Service ("EVPLS") will provide point-to-point connectivity between diverse locations within a metropolitan area with Ethernet based transport, (ii) Ethernet Virtual Private LAN Service ("EVLAN") will provide point to multipoint, or any point to any point connectivity across multiple diverse locations within a metropolitan area with Ethernet based transport, and (iii) Ethernet Internet Access Service ("EIA") will provide a connection with a bandwidth profile from 1Mbps to 1,000 Mbps to the Internet backbone. EIA provides Customer only with access to the Company's backbone network that serves as a transmission conduit through which Customer may connect its data servers to the Internet. The Company does not operate, process or control the information, services, opinions or other content of the Customer's data servers or the information, services, opinions or other content of the Internet; nor does the Company engage in any protocol or information processing or conversion in connection therewith. EVPLS, EVLAN and EIA are hereinafter referred to as Metro Ethernet Virtual Private Line Service ("Metro EVPLS").

Benefits of AFS' services, such as Metro EVPLS, include the following.

- **Lower transport costs.** Metro EVPLS pricing is more attractive than comparable private line carrier offerings. Metro EVPLS also permits incremental bandwidth increases up to 1 Gps as Customer's needs dictate.

- **Increased reliability, diversity, and expandability.** AFS' networks are always configured with diverse load sharing metro network paths, which provide built-in reliability for optical transport. They are monitored 7/24/365. As required, AFS will construct laterals from the AFS network to the Customer's facility.[3]

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[1] For a detailed technical description of the Metro EVPLS Services, see Section 2 below.

[2] AFS currently does not supply Internet (or other information) services in conjunction with its telecommunications service offerings. Customers should contract with their ISP separately for such access.

[3] Charges for such special construction, if needed, will be based upon ICB rates.

- **Single point of accountability.** AFS serves as the Customers' single point of contact for all service problems, thereby eliminating "finger pointing" and other complications in dealing with multiple carriers.

- **No capacity constraints.** Bandwidth and other capacity constraints caused by third party leased facilities are eliminated. Traffic is delivered over AFS' all fiber network.

- **Superior fiber technology.** AFS' network is built with Application Specific Metropolitan Fiber that is Multi-protocol, Multi-Application, supports broader spectrum usage, and has minimal Db loss tolerance to distance and splicing.

- **Simple pricing**. AFS' service charges are based on a simple upfront installation charge and a monthly, recurring charge.[4] Billing is provided on a simple, monthly invoice.

1.2 Pricing

1.2.1 General

The rates for AFS' intrastate service are set forth in its tariffs, on file with the respective state utility commission for the applicable state. Promotional rates for the Metro EVPLS ambassador pricing are set forth below. All other AFS rates for interstate service are available upon request. A Customer will be deemed to be purchasing interstate service if ten percent (10%) or more of the Customer's traffic delivered over AFS' network is interstate.

1.2.2 Metro EVPLS Beta Customer Promotion

For each of its first EVPLS, EVLAN AND EIA Customers ("Beta Customers") in an AFS market, AFS is offering (i) a special ambassador pricing promotion, and (ii) free traffic separation service. That is, if a Customer wishes to separate its traffic to separate ingress ports (up to 12 available), for different priority handling based on Customer assigned VLAN or TDI designations, AFS will treat these as one logical port for billing purposes.

[4] These are exclusive of taxes and surcharges. See Section 6.5 below.

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1.2.3 Dark Fiber Services

Upon request and subject to the availability of facilities (including without limitation, access rights to poles, conduits, and rights of way as needed), AFS shall make available dark fiber facilities ("Dark Fiber") to Customer on a case by case basis. Such Dark Fiber will usually be comprised of single mode, fiber optic facilities suitable for provisioning point-to-point communications, transmitting at Customer specified bandwidths. In certain circumstances, however, AFS, upon specific request, may provide Customer with "dark" Multimode fiber to the extent available. Charges for Dark Fiber facilities will be calculated on an ICB, per strand, per mile basis. Dark Fiber, where available, is provided in increments of at least one strand, with the fibers terminating on a standard optical patch panel. The types and routes of Dark Fiber facilities that AFS chooses to make available will all be determined by the Company in its sole discretion. All Dark Fiber is provided on an "as is" basis, and AFS makes no guarantee or warranty whatsoever, whether express or implied, regarding Dark Fiber, including without limitation, the suitability of Dark Fiber for use by Customer for any purpose whatsoever, regardless of whether or not AFS was informed of such intended use or purpose.

1.2.4 Contact Information

Additional information on AFS' services, including features, capabilities, rates, terms, and conditions are available from the following:
Mr. Bill Ciminelli
American Fiber Systems, Inc.
(585) 340-5400, Ext. 132
bciminelli@americanfibersystems.com

2. METRO EVPLS SUMMARY

Metro EVPLS permits a Customer to extend the range of their Ethernet communication from LAN to a wide area network.

Customer may request a change to its EVPLS bandwidth ("Bandwidth Profile") at any time provided it does not exceed the physical line rate of the port on which the circuit is provisioned (e.g. Customer could not have a 150 Mbps Bandwidth Profile on a circuit delivered via 10/100 BaseT connection).

With Metro EVPLS, Customers' Ethernet transmissions are encapsulated at OSI Layer 2, using standard IEEE 802.3z protocol, and delivered over the AFS supplied optical backbone network to a designated remote site. Metro EVPLS thus can deliver IP ("Internet Protocol") or other data packets between two (2) specified points using Ethernet frames. Each Ethernet circuit will have a total Bandwidth Profile, which indicates its maximum data throughput. Metro EVPLS is transparent to Layer 3 protocols, including IP, IPX, and AppleTalk. Connectivity is available (initially) at the

discrete bit rate from 1 Mbps to 1000 Mbps (in increments of 1 Mbps or 10 Mbps). Metro EVPLS thus permits Customers to transmit any information content of their choosing, and delivers the Customer's Ethernet communications without change in form or content from the Customer's premises to a specified destination (remote site, data center, or other carrier's POP).

3. PERFORMANCE

AFS undertakes commercially reasonable efforts to achieve the following performance goals and to make available the following network capabilities for Metro EVPLS Customers:

3.1 Network Performance Goals ("SLAs")

SLAs will vary depending upon Customer's network configuration and specific service agreements entered into by the parties. Generally speaking, EVPLS is intended to operate according to the following SLAs:

- EVPLS Availability: **99.5% – 99.99%**
- Network Restoration: **200ms – 1000ms**

4. AFS TECHNOLOGY

The AFS network architecture is constructed by utilizing Ethernet over Fiber ("EoF") in a "hub & spoke" configuration with switching/routing between the AFS' POPs.

AFS' implementation is based on the longstanding IEEE 802.3 Ethernet standard. This implementation is a simple electrical to optical translation over AFS' Fiber. AFS' network can deliver functionality over point-to-point and mesh network topologies. EoF is a very cost-effective, high-performance (up to 10 Gbps) solution and can span distances as great as seventy (70) kilometers. This approach takes advantage of AFS' "fiber rich" networks to implement cost effective solutions that can be implemented very quickly.

AFS' operations and support systems ("OSS") provide centralized provisioning and activation of Ethernet layer services across the entire AFS network. AFS can set all detailed parameters to provision service ("bandwidth" in 1 Mbps increments, burst durations, 802.1p priorities, etc.). AFS' OSS provides an on-line resource management tool that maintains an accurate relationship between Customer / services / resources. A database tracks the availability of network resources required to provision services or to

SONET

Throughout it's fiber network, American Fiber Systems employs Synchronous Optical Network (SONET) technology. SONET has the ability to detect any problems in the network including cuts in the network fibers. Since our networks are deployed in a ring, your communications signals simultaneously travel along two separate fiber optic paths. If SONET detects signal degradation in one of the paths, your communications signal will be maintained on the second fiber optic path, avoiding interruption. This process takes place within milliseconds, so the changeover is imperceptible. American Fiber Systems currently employs SONET products manufactured by Fujitsu (www.fujitsu.com) an industry leader in metro SONET equipment.

DWDM

Dense Wavelength Division Multiplexing (DWDM) is a higher capacity version of fiber optic transport technology. DWDM is a means of increasing the capacity of fiber-optic data transmission systems through the multiplexing of multiple wavelengths of light. Simply stated, separate signals can be transmitted via separate colors (lambdas) over the same pair of fibers. American Fiber Systems' network contains OC-48 DWDM equipment manufactured by ONI (www.oni.com). American Fiber Systems' DWDM rings can transport up to 33 separate OC-48 signals over a single fiber pair. This capability has cemented American Fiber Systems's reputation as a carriers' carrier.

OPTICAL ETHERNET

Built on the available installed base and proven reliability of Ethernet technology, our Metro Optical Ethernet product allows customers all of the flexibility of Ethernet with carrier grade capacity and reliability. Using the products manufactured by Coriolis (www.coriolisnet.com) in the Optiflow product line as well as Fujitsu's Ethernet over SONET platform, American Fiber Systems can provide point to point Ethernet speeds between 10 Megabits per second and 1 Gigabyte per second. The Ethernet signals will be carried over our SONET ring and will enjoy the diversity and reliability of carrier TDM signals. Our customers can custom order the connection speeds in 10 Mbps increments to fit their needs exactly. No longer is it necessary to squeeze data into a pipe that is not quite large enough or to buy much more capacity than what is needed just to accommodate peak usage times. Our Metro Optical Ethernet product will be tuned to the exact fit of the customer and can be increased or decreased in a few days time. Direct Ethernet connections also give users the advantage of direct incorporation of network connectivity into existing router Ethernet ports, eliminating the need for the purchase of an expensive TDM router card. The Ethernet connection will just plug right into the router's existing Ethernet port.

INTERNET SERVICE PROVIDER

In addition to being a world-class carrier; American Fiber Systems is also a world class Internet service provider. Our customers can purchase their T1's from us with Internet access and router included and benefit from the advantage of consolidated billing and one stop shopping for customer service and maintenance. American Fiber Systems currently has three separate connections to the Internet backbone which gives our customers diverse routing to the Internet. American Fiber Systems uses the Cisco 7206 (www.cisco.com) core router which supports all of the latest gateway protocols including BGP4. We offer web hosting, email boxes, IP addresses, content filtering, and other major value added services to Internet access.

Fiber Factoid

Increase your gross margins to 50%. According to a recent study by Jeffries & Company, carriers and service providers who own their own networks typically enjoy gross margin revenues of 50%, as compared with 30% for smart-build switch carriers, 21% for switch-based resellers, and only 9% for switchless resellers.

Dark Fiber Metro Networks

Nothing liberates the power of the Internet like our sophisticated network technology—including the power to profit from it.

AFS metropolitan networks, with built-in redundancy for total reliability, are designed using sophisticated demand-profiling software for market-smart integration. This results in strategic placement of dark fiber cable (from 288 to 864 strands) in and around the metro area for maximum high-capacity service coverage in high-density business districts.

That's why companies who partner with AFS will remember intra-city data gridlock as a quaint bump in the road.

With this breakthrough technology soon to be available across the country, your pathway to efficient service provisioning and maximum profitability is clear. Bandwidth is virtually unlimited, but your lease price is fixed for your term. You're free to develop and provide your own services on your own terms, completely unrestricted, and to operate as a facilities-based company—the route recognized by industry experts as the only way to go.

Get the real story about how much it costs for a CLEC to lease ILEC network facilities. Download the case of Hypothetical Communications, Ltd. by clicking on the arrow to the right and you'll find out all the facts and figures for yourself. You might just be surprised.

DOWNLOAD DARK FIBER BUSINESS CASE POWERPOINT PRESENTATION

Fiber Factoid
Wavelength division multiplexing, allows our customers to split fiber into 160 channels--with each channel

capable of carrying as much traffic as an old single fiber.

AFS offers enterprises, carriers and service providers a much better alternative than either leasing fiber or transport services from a retail competitor or building their own metro networks.

Among the benefits of dealing with AFS are:

- Higher profit margins. Dark fiber is far more affordable than leasing DS-3s.
- No competition. We are carrier-neutral and committed to supplying dark fiber and wholesale transport services. We have no interest in selling retail services in competition with our own customers.
- Superior network design. Our expertise is in the design and deployment of optical-fiber networks. Customers always benefit from our singular focus.
- A completely turn-key operation. AFS handles every aspect of the process -- route development and design, right-of-way procurement, engineering, franchising, permitting, construction oversight, operation, monitoring and maintenance.
- Flexible pricing. Wholesale transport and dark fiber leasing and term contracts to fit any budget.
- Professional services. Professional consulting every step of the way -- from initial concept through equipment selection through co-location and gateway services, through network monitoring, through value-added services.
- And on, and on, and on...

Today, downloading a 90-minute digital movie takes more than 7 hours over the fastest cable modem--over an hour with an Ethernet connection.

With an AFS Network lit by modern optronics, it takes 4 seconds flat.

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Contact our webmaster with any technical issues.

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

American Fiber Systems is a "dark" fiber metropolitan infrastructure and transport services provider, dedicated to enabling aggressive companies to profit from the burgeoning communications market without waiting years to do it. We design, build, operate and maintain high-capacity, high-bandwidth fiber-optic networks, constructed on full-spectrum fiber and completely connected to a city's most important points of communications presence:

ILEC and CLEC central offices; ISP and ASP facilities; Interexchange "carrier hotels;" Wireless providers and cable company head ends, and Fortune 1000 companies.

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

Professional Services

AFS also offers a wide range of Professional Services, from the business planning stages to design and implementation to managing and maintaining. Whether your company is looking to outsource functions longer term or has a one time project management or consulting requirement.

With the latest optical technology, a single strand of fiber thinner than a human hair can now carry every phone call, e-mail and Web page used by every person in the world.

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AT&T

AT&T Local Private Line Service

SERVICE PORTFOLIOS

- INTEGRATED OFFERS
- DATA
- HOSTING
- IP & IP VPN
- BUSINESS CONTINUITY & SECURITY
- VOICE
- ACCESS & LOCAL
- PROFESSIONAL SERVICES

What is your business doing? Growing, of course, adding sites, expanding locations - and finding that your mission-critical data communications are increasing all the time!

Every minute of the day, companies like yours are connecting LANs. Sharing e-mail. Running POS applications, credit line authorizations, online banking, new hire training.

To keep up with the bandwidth explosion and manage it all, you need what you've always needed - networking speed, efficiency and reliability. Now you can get it in a new, yet reassuringly familiar, way.

FEATURES & BENEFITS

AT&T Local Private Line Service offers private line connections in an extremely cost-effective package. Your business doesn't need to invest in new equipment, or transfer to a switched environment. You can run all your data applications, access all your corporate intranets and extranets, plus integrate your voice services - all with AT&T Local Private Line Service.

You will find that you can grow your business across town or across the US and still take advantage of AT&T Local Private Line Services - in more than 70 Metropolitan Areas spanning 38 states.

AT&T Local Private Line Services are delivered over the AT&T Local Service SONET backbone infrastructure.

AT&T can establish a point-to-point connection from your premise to a carrier's POP, to non-AT&T InterExchange carrier, to your disaster recovery center or even to your ISP for Internet access. Local Private Line Services are full-duplex services and can be provisioned at the following speeds: DS-1/DS-3, OC-3c, OC-12c, STM-1, STM-4, OC-48c, OC-192c and Ethernet (50 Mbps, 150 Mbps, 300 Mbps, 600 Mbps and 1 Gbps).

With AT&T Local Private Line Service SONET backbone, you'll receive protection and reliability. We target a 99.995% availability! In fact, the network is designed to recover from disasters such as fiber cuts or electronic component failures within 50 milliseconds.

OPTIONS

- AT&T Dedicated Entrance Facility
- AT&T Ethernet Private Line Service-MAN
- STM-x Service

PRICING

AT&T Private Line Service requires customization and tailoring to your environment. For further information, you can contact an AT&T representative by calling 1-800-222-0400..

Request Additional Information

Send us your questions/comments this service.

Product Brochures

AT&T Dedicated Entr Facility

Local Private Line Se

Additional Resourc

AT&T eXpress Bondir (SM) - Fact Sheet

Data
Services

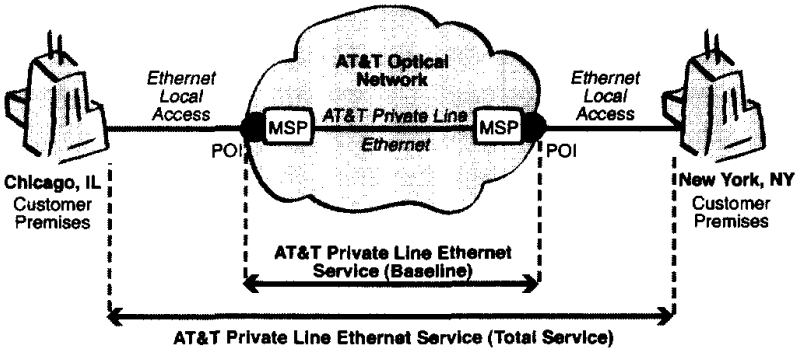
AT&T | Wholesale

AT&T Data Services. For You. For Your Customers.

AT&T has been building and delivering mission-critical data services to enterprises and service providers for many years. AT&T Wholesale Services offers best-in-class performance, service delivery and operational support enabling you to build flexibility, high reliability, performance and scalability into your service offerings. You may also leverage some of these same services to provide new technologies to your customers, or to better manage your ever-changing internal needs.

AT&T PRIVATE LINE SERVICES

AT&T offers an array of Local and Long-Haul Dedicated Private Line & SONET services from Single Channel to OC192 (Wavelength) Services, all with high availability and performance. In addition, Ethernet Services are available in bandwidths from 50Mbps up to 1Gbps. In the event of a service outage, we stand behind our services with credit allowances and aggressive Service Assurance Warranties (SAW). AT&T Private Line Services handle demanding communications needs with AT&T's assurance of availability, reliability and performance.



POI = AT&T Ethernet POP Point of Interface

Options for AT&T Private Line Services cover access, diversity, reliability, network management and disaster recovery.

- **AT&T Bandwidth Manager (ABM)** provides a full spectrum of network management, bandwidth-on-demand and disaster recovery capabilities.
- **Enhanced Reliability Option** offers the strongest SAW in the industry, guaranteeing 99.99% service availability.
- **Multiplexing** allows you to combine network circuits over a common high-speed backbone to improve economic performance and optimize efficiency and utilization of the service.

Your Networking Solutions Provider

AT&T Wholesale Services offers a comprehensive worldwide portfolio of global Voice, Data, IP and Applications Services to help you grow your business on three fronts. First, as a service provider, you have our best-in-class communications products to market to your customers. Now you also have the valuable opportunity to leverage some of these same services:

- To build and strengthen your own network infrastructure
- To manage and facilitate your internal business operations

With a world-class breadth of communications capabilities, AT&T Wholesale is uniquely positioned to help you serve your customers, keeping both your business and theirs moving forward.

AT&T HIGH-SPEED PACKET SERVICES

For high-speed transport, high-level security and a network that can quickly be scaled up to meet growth, AT&T offers flexibility around its industry-leading packet services, available in the US and around the world. As a Service Provider you generate revenues by marketing AT&T's best-in-class communications products to your customers. Now you also have the valuable opportunity to leverage some of these same services to build out and strengthen your own network infrastructure, and/or to manage and facilitate your internal business operations.

- **AT&T Customer Network Management System (CNMS)** provides a comprehensive Web-based network performance and monitoring tool delivering robust trending reports on each port and PVC on customer networks.
- **AT&T Frame Relay Service** is based on frame relay technology and is provided over AT&T's ATM switching backbone for high-speed reliability, low congestion and consistent performance. Its rich feature set includes industry-leading SLAs, AT&T ReliaBURST® for traffic spikes beyond your Committed Information Rate (CIR), virtually instantaneous rerouting around failures and Priority Egress Queuing (PEQ) to ensure that the highest priority communications traverse the network first.
- **AT&T ATM Service** provides extremely rapid transport, minimal delays and very high-quality levels - even for voice and video transfer. Highly bandwidth-intensive applications cross the network with ease, including videoconferencing, medical imaging and high-quality video for media applications. AT&T's ATM Service can run voice across the data network at speeds up to OC12.
- **Reliability Options for AT&T Frame Relay and ATM Services** build in protection, redundancy, multiple speed and connectivity solutions. The faster speeds support multimedia capabilities.
- **AT&T Frame Relay to ATM Service Interworking** allows customers to transmit data between AT&T Frame Relay and ATM ports.
- **Network Gateway Interface (NGI) and International Network Gateway Interface (I-NGI)** offerings provide the capability to expand the local, regional or global footprint of your network by connecting your Frame Relay/ATM to AT&T's Frame Relay/ATM Service.
- **AT&T IP-Enabled Frame Relay/ATM Service** combines the flexibility of IP networking with the security of AT&T's best-in-class frame relay/ATM network, helping you maintain privacy on your (or your customer's) frame relay and/or ATM network.
- **AT&T DSL Access to Frame Relay** provides a significant cost savings over other high-speed access services requiring no new customer investment in infrastructure or special equipment.

AT&T ACCESS SERVICES

AT&T ACCU-Ring Service is a fully managed high-speed service running on a SONET infrastructure and providing two-way digital transmission for all local channel connections. These include AT&T Private Line, Switched and Enhanced services, Local Exchange Carrier and Interexchange Carrier traffic, as well as business premise-to-premise communications.

Dedicated Entrance Facilities (DEF) provide a high capacity, dedicated communication path between a customer's premises and the AT&T Local Network Services (LNS) node, or between a customer's premise and another designated premise (two-node direct SONET interface configuration). DEF is offered in various bandwidths at SONET rates. If SONET facilities are unavailable, LNS Special Construction charges may apply.

Ultravailable® Network, Ultravailable® Wavelength and Ultravailable Managed OptEring Services℠ are fully managed, custom solutions for interconnecting a customer's data centers and business sites in a metropolitan area network (MAN) environment with the ability to extend the MAN into the wide area network (WAN) with the AT&T Ultravailable® Managed OptEring℠ Service.

Learn more about AT&T Wholesale and the services we provide by contacting your local AT&T Sales Representative or visiting us at www.att.com/wholesale

AT&T | Wholesale

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AT&T
wholesale
services

AT&T Data Services for Service Providers

With experience that spans more than a century, AT&T understands the unique business needs of service providers. We work with carriers, cable companies, mobile operators and ISPs to meet the specific requirements of your customers on a global basis, while maintaining a strong local feel. We have the infrastructure and resources, plus a global presence in 60 countries, to help you maximize reach and efficiency. Operating in a rapidly evolving marketplace where the pressures of global competition dictate the need for diverse global connectivity, AT&T Data Services offer a flexible portfolio of local, national and international data products and services — always with high levels of technical support that meet your needs as your network reacts to industry forces.

Your Challenge is Our Business

Our U.S. domestic and international sales teams are segmented by geography and specialty to provide you with the data services product and coverage information that supports your needs. We are accessible, knowledgeable and speak your language. We are continually evolving our network and expanding our breadth of services to cover everything from Private Line to High Speed Packet Services (Frame Relay and ATM), with local, national, and global reach. We also offer powerful Web tools so you have available comprehensive network management information at the point-and-click of a mouse. We are focused on building a network to handle complex and mission-critical applications, emphasizing features that enhance key competencies and responding to fast-changing needs. In fact, through our commitment to solving data networking challenges, we design networks that fit the needs of you and your customers. Selecting from our data networking portfolio, we can help you customize and create, giving you and your customers the economies of scale that only a proven global service provider can.

Powering Up with AT&T Strengths

When you choose AT&T, you know you also have the power of the AT&T network behind you. On an average day, the AT&Tnetwork handles more than 2500 terabytes of data. Our frame relay network consistently achieves a 99.99% performance rating. We optimize a combination of bilateral and alternate routes to more than 230 countries and territories, with over 400 correspondents or suppliers. In the U.S., we have more

Want a truly global data network provider? Connect with AT&T.

More than ever, now is the time to leverage AT&T's world-class quality services for your customers' data entworking needs. We have the infrastructure and resources, plus over 100 years of industry experience, to give your customers security and availability. AT&T Wholesale data networking products offer fast and reliable service - anytime, anywhere – at competitive prices for our wholesale customers.

than 61,000 route-miles of fiber (enough to circle the globe twice). AT&T's depth of services has been recognized in the industry, "AT&T remains the player to beat in the business communications space, enjoying a position as the biggest seller to large enterprises and the carrier with the fullest portfolio of data services available." -Yankee Group, July 2002.

We were the first to deliver Frame Relay-to-ATM Service Interworking We not only introduced the award-winning IP-Enabled ATM, but our IP-Enabled Frame Relay Service was the first MPLS-based product in the U.S.

An Overview of AT&T Data Services

AT&T has been here to strengthen data networks for as long as any business in America has been networking. From Private Line to Frame Relay to ATM Services, from local to global to secure Internet Access, we've developed a rich portfolio that can bolster your networks' footprint and capabilities. Whether you are providing a simple T1 local connection, OC192 (10 Gbps) wavelength service or international FR/ATM, AT&T facilities can enable you to build flexibility, high reliability, performance, and scalability into your service offers. As you review our services, remember that we continue to expand our offerings to include new technologies and provide more services to meet your ever-changing needs.

AT&T Private Line Services

From Single Channel to OC192 Services for local or long haul communications, AT&T Private Line Services offer an array of choices, all with high availability and performance, plus the security only Private Line can assure. In the event of a service outage, we stand behind our Single Channel and Fractional T1 services with a Credit Allowance, while our T1 and T45 services are protected by a Service Assurance Warranty(SAW).

Bandwidth Options:

- Single Channel
- Fractional T1 and T1
- Fractional T45 and T45
- OC48 to OC192 Optical Wavelength Services
- Ethernet Services available at: 50Mbps, 150Mbps, 300Mbps, 1Gbps.

AT&T Private Line Services handle your demanding communications needs with AT&T's assurance of availability, reliability and performance.

Think innovation is out of fashion in traditional carrier services? Don't tell that to AT&T.

"Few companies have the international reach of AT&T and none have the same level of optical offerings as Ultravailable."

–Yankee Group, February 2003

Options for AT&T Private Line Services cover access, diversity, reliability, network management and disaster recovery. The following is a sampling:

- Total Service includes the local access channel and delivers total end-to-end service through AT&T. With this option, AT&T. handles total provisioning, maintenance, billing and support of dedicated access circuits as well as the Interoffice channels.
- AT&T Bandwidth Manager (ABM) provides a full spectrum of network management, bandwidth-on-demand and disaster recovery capabilities.
- Enhanced Reliability Option offers the strongest SAW in the industry, guaranteeing 99.99% service availability.
- Multiplexing allows you to combine network circuits over a common high-speed backbone to improve economic performance and optimize efficiency and utilization of the service.

AT&T High-Speed Packet Services

For high-speed transport, high-level security and a network that can quickly scale to meet growth, AT&T offers flexibility around its industry-leading packet services.

- AT&T Frame Relay Service is based on frame relay technology and is provided over AT&T's ATM switching backbone for high-speed reliability, low congestion and consistent performance. Its rich feature set includes industry-leading SLAs, AT&T ReliaBURST® for traffic bursting beyond your committed information rate (CIR), virtually instantaneous rerouting around failures and Priority Egress Queuing (PEQ) to ensure that the most important communications transverse the network first.
- AT&T Frame Relay Plus provides you with a monitoring and network management window into your customers' networks, down to the application level.
- AT&T IP-Enabled Frame Relay Service maintains the privacy of the frame network while establishing any-to-any access to the Internet, intranets and extranets using MPLS technology.
- AT&T Frame Relay to ATM Service Interworking lets your customers transmit data between AT&T Frame Relay and ATM ports. This service is also useful for customers that wish to migrate from Frame relay to ATM at their own pace with no change in CPE.
- AT&T ATM Service can carry the most bandwidth-intensive applications across the network with ease, including videoconferencing, medical imaging, high-quality video for media applications and running voice across the data network at speeds up to 155 Mbps.
- AT&T IP-Enabled ATM assigns any-to-any access to the Internet, intranets and extranets while preserving the privacy of the ATM network.

"With its global network infrastructure upgrade progressing, AT&T is in an increasingly strong position to support high-speed U.S. and international connections and value-added IP services in many metropolitan markets around the world."

– Gartner, January 09, 2003

Reliability Options for AT&T Frame Relay and ATM Service:

- Disaster Recovery Options build in protection against major failures with backup PVCs, access protection, direct links to disaster recovery centers and more.
- Diversity Options put in place redundancy connections such as POP diversity and switch diversity to ensure a continuous flow of network traffic.

AT&T Local Services (Private Line, Frame Relay, ATM)

- AT&T Local Private Line Service is a cost-effective solution for connecting multiple metro sites. – The available speeds are: DS0, DS1, DS3; OC3c, OC12c, OC48c, OC192c; STM 1, 4, and 16. Also Metropolitan Ethernet is available at speeds of 50Mbps, 150Mbps, 300Mbps, and 1Gbps.
- AT&T Local Frame Relay Service connects multiple sites within a metropolitan area requiring bandwidth up to T45 connectivity.
- AT&T Local ATM Service provides that same local connectivity among multiple metro sites, with increased speeds up to T45 and OC3 allowing for multimedia capabilities.

AT&T Access Services

AT&T offers several Integrated Access Offers.

- AT&T ACCU-Ring Service is a fully managed high-speed service which runs on a SONET infrastructure and provides two-way digital transmission for all local channel connections. These include AT&T Private Line, switched and enhanced services, Local Exchange Carrier and Interexchange Carrier traffic, as well as business premises-to-premises communications.
- Dedicated Entrance Facilities (DEF) provide a high capacity, dedicated communication path between a customer's premises and the AT&T Local Network Services (LNS) node, or between a customer's premises and a designated premises (two-node direct SONET interface configuration). It is offered in OC-3, OC-12 and OC-48 bandwidths at SONET rates. DEF also offers STM-1 and STM-4 handoffs. Since this service includes a dedicated, high capacity, customized network, it will be deployed where SONET facilities are available. If SONET facilities are not available, LNS Special Construction charges may apply.
- AT&T Ultravailable® Network, AT&T Ultravailable® Wavelength and AT&T Ultravailable Managed OptEring Service are fully managed, custom solutions for interconnecting your customer's data centers and business sites in a metropolitan area network (MAN) environment with the ability to extend the MAN into the WAN with the AT&T Ultravailable Managed OptEring Service. The network design and engineering provides the highest possible levels of availability, reliability and security, assuring your customer fail-safe business continuity with continuous operations and access to their information.

"In the U.S., AT&T remains a leading provider of private-line services, as well as frame relay and ATM services, and the company has also been a leading provider of global telecommunications services. AT&T has maintained this leadership position and will continue to do so through its advanced and innovative offerings."

– Gartner, April 2002

AT&T Dark Fiber Offer

Dark, or unlit, fiber is purchased as a custom offering from AT&T. The dark fiber, consisting of non-zero dispersion-shifted fiber, is designed to support technologies as they evolve. The fiber terminates into the CPE that provides the necessary transmission speed – and the customer provides the required Optical Amplifier equipment.

AT&T Dedicated (Leased) Transit

AT&T's Dedicated Transit (for voice, video, data or IP) allows International Facility-Based Carriers to traverse the US in order to connect sub sea cables, satellite earth stations or border crossings that touch the US. For example, if carrier A (in Europe) and B (in Asia/Pacific) exchange traffic via Japan - US and TAT 14, they would need a segment in the US to connect those two cables. Dedicated Transit allows them to send traffic fromEurope to Asia/Pacific in a seamless fashion. (This is just one illustration and not the only example.)

An AT&T Dedicated Transit Facility is service agnostic. International Facility-Based Carriers can transmit voice, video, data or IP. AT&T's world class US domestic network provides a seamless extension of an administration's own network which allows for the initial establishment of a direct global link to administrations in other countries. Dedicated Transit is available in speeds from 64 Kbps through STM1. AT&T's self-healing, redundant network enables restorations to occur in milliseconds. Network maintenance is provided 24 x 7. Dedicated Transit offers three distinct paths across the US for East/West Coast connectivity.

AT&T Sub Sea Cable

AT&T sells spare capacity in cables in which it has ownership to qualified International Facility-Based Carriers. Sub Sea Cable terms are usually an IRU (Indefeasible Right to Use) or less frequently leased capacity for a minimum of one year. Speeds offered are from 64 Kbps to STM-16. Sub Sea Cable service is non-regulated and non-tariffed, but subject to terms and conditions of the cables' C&MAs (Construction and Maintenance Agreements). AT&T also services and maintains cables in which it has an ownership interest. These facilities boast best in class maintenance and design. AT&T Sub Sea Cable Service can be bundled with AT&T Dedicated Transit and Backhaul Services.

For more information, contact your AT&T Representative or visit www.att.com/wholesale

AT&T

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Buckeye TeleSystem

MAXLINK BUNDLE

LOCAL VOICE SERVICES

LONG DISTANCE SERVICES

DATA & INFO SERVICES
- ISDN/PRI Data
- Private Line Services
- Private Line Long Haul
- Dedicated Internet Access
- Frame Relay/ATM

Private Line Services

Local point-to-point or point-to-multipoint circuits.

Applications

- PBX Tie Lines
- LAN/WAN Interconnection
- Broadband Dedicated Internet
- Private Networks

Benefits

- Shared Resources
- Broadband Dedicated Internet
- Eliminate per-call charges when dialing throughout your private network.
- Add bandwidth between facilities for Electronic Data Interchange (EDI), Imaging, CAD/CAM, and *more*.

Buckeye TeleSystem Private Line Service provides broadband dedicated service to businesses in Northwest Ohio and Southeast Michigan. As with all of our products, this transport is offered at capacities ranging from the DS-1 (1.544Mbps or 24 voice-grade lines) level to OC-48 (2.4Gbps or 32,256 voice-grade lines).

Our core network infrastructure is made of redundant SONET rings, which provide the highest degree of reliability for your services. Buckeye TeleSystem owns the responsibility to deliver absolute satisfaction to our customers; therefore, we monitor your service 24 hours a day, seven days a week at our local Network Operations Center. We can see any network anomaly, often resolving it before our customers realize there was a problem. Buckeye TeleSystem would rather call our customers and notify them of a problem than have them call us. That's complete customer service.

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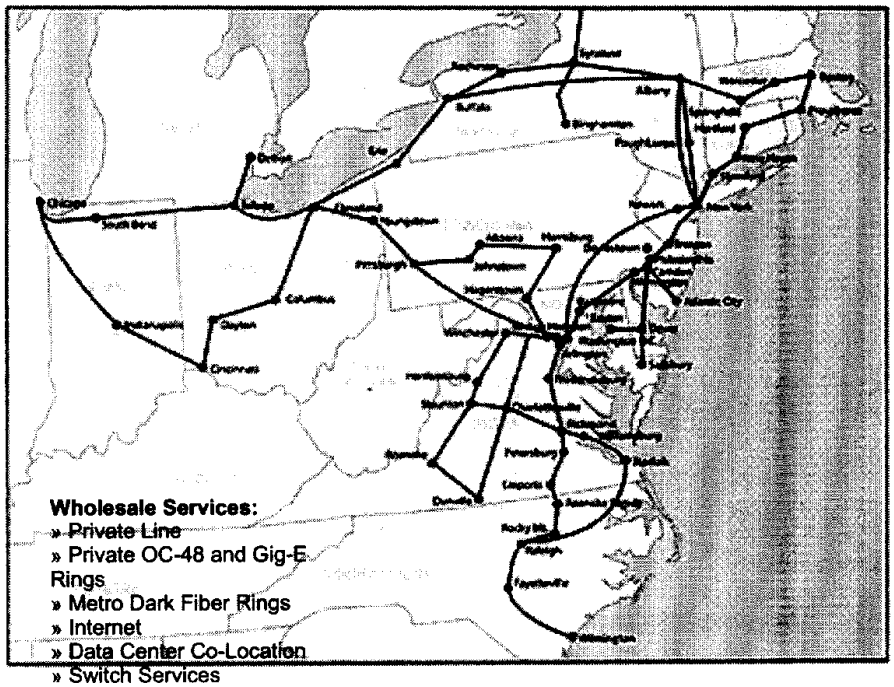
Wholesale Services

Cavalier Business Communications is proud to provide our network, technology and support to carriers and resellers.



Wholesale Services:
» Private Line
» Private OC-48 and Gig-E Rings
» Metro Dark Fiber Rings
» Internet
» Data Center Co-Location
» Switch Services

Contact Information:
Joe Delaney
Director of Sales
267-803-4092 or 800-950-7858
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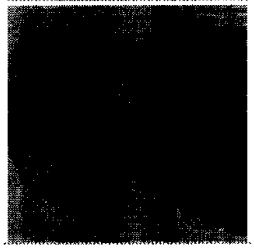

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Choice One Communications

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Metro Private Line

Choice One's Metro Private Line service allows customers to cost-effectively extend their network reach and bring them closer to their customers and partners, reducing their dependence on Local Exchange Carriers, and providing them with greater flexibility, security, and scalability.

Metro Private Line provides a DS1, DS3, OC3, or OC12 of dedicated and protected, full channel, point-to-point capacity on an intra-market route between two Choice One Central Office Collocation cages or a Central Office Collocation cage and a Choice One Regional Switching Center or Point of Presence (PoP). With Choice One's Metro Private Line service, Inter-Exchange Carriers (IXCs) can benefit from reduced backhaul charges, and decrease the mileage and expense of end user local loops. CLECs and IXCs can also take advantage of Metro Private Line to augment their Direct End Office Trunking - and CLECs can utilize this robust service for Inter-Office Facility transport.

City Signal Communications

CITY SIGNAL

Dark Fiber Metro Networks, Built for Your Growth

The Company

City Signal Communications (CSC) delivers metro dark fiber solutions enabling service providers and enterprise customers to deploy broadband applications.

Located in key Mid Atlantic and Mid West markets, our multi-ring network architecture provides customers with last mile connectivity to key buildings in the central business district and suburban communities. As a result, our networks provide an affordable, flexible and dependable dark fiber solution with the ability to grow on demand.

CSC's networks meet the high demands of many types of service providers including, CLECs, ILECs, ISPs, wireless and next-generation providers utilizing xDSL and Gigabit Ethernet platforms. We facilitate the market entry or expansion of service providers by offering flexible pricing programs designed around the leasing of dark fiber strands on our metro networks.

Completed networks are available in Philadelphia, PA, Cleveland, OH, Richmond and Norfolk, VA, Wilmington and Newark, DE and Southern New Jersey.

Headquartered outside of Philadelphia, City Signal Communications is led by an experienced management team, is fully funded and focused on achieving our goal of enabling customers to break the bandwidth bottlenecks that exist in today's metro networks.

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CITY SIGNAL

Dark Fiber Metro Networks, Built for Your Growth

Still trying to figure out how to expand your markets AND conserve capital?!?

Reduce your metro network's cost structure by using fiber from City Signal Communications. Why even consider spending your precious capital dollars on expensive, complicated and de-focusing construction projects. CSC allows you to do what you do best, which is to provide cutting edge communications services to your customers.

CSC's optical fiber backbone enables carriers of all types to offer on-net, facilities-based broadband services to their end users. CSC offers a simple but elegant value proposition of a future-proof network with virtually unlimited bandwidth and all at a fixed cost.

Our networks not only connect you to Central Offices, Carrier Hotels, Data Centers and other traffic aggregation points, but CSC also targets central business districts and suburban office parks. Our goal is to push the "edge" as close to the end user as possible, enabling more applications for our customers while controlling expensive building access costs.

For more information on how CSC can help you expand your company's footprint, please contact us at sales@citysignal.com.

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CITY SIGNAL

Dark Fiber Metro Networks, Built for Your Growth

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CSC Solutions

CSC is building extensive dark fiber metropolitan area networks in a number of mid-sized cities in the Mid Atlantic and Mid-Western regions of the United States. Our concentrated efforts have been focused on building metro networks in cities that are underserved in terms of a metro fiber infrastructure.

CSC currently has extensive networks in Cleveland, Columbus, Philadelphia, New Jersey, Delaware, Richmond, Virginia, Norfolk, Virginia and throughout the state of Delaware.

Our network design not only incorporates the obvious hubs such as Carrier Hotels, Central Offices, Data Centers and other such voice and data aggregation points, but we also target central business district and suburban office complexes.

CSC has also designed the networks to meet the economics of your network plan. We have designed the backbones to be redundant ring systems with the proper scale and distances so our customers can avoid expensive, long-reach optics to go between nodes.

CSC dark fiber solutions are a cost effective, long-term answer to any organizations networking requirements. Contact us to see how easy the CSC Solution can work for you.

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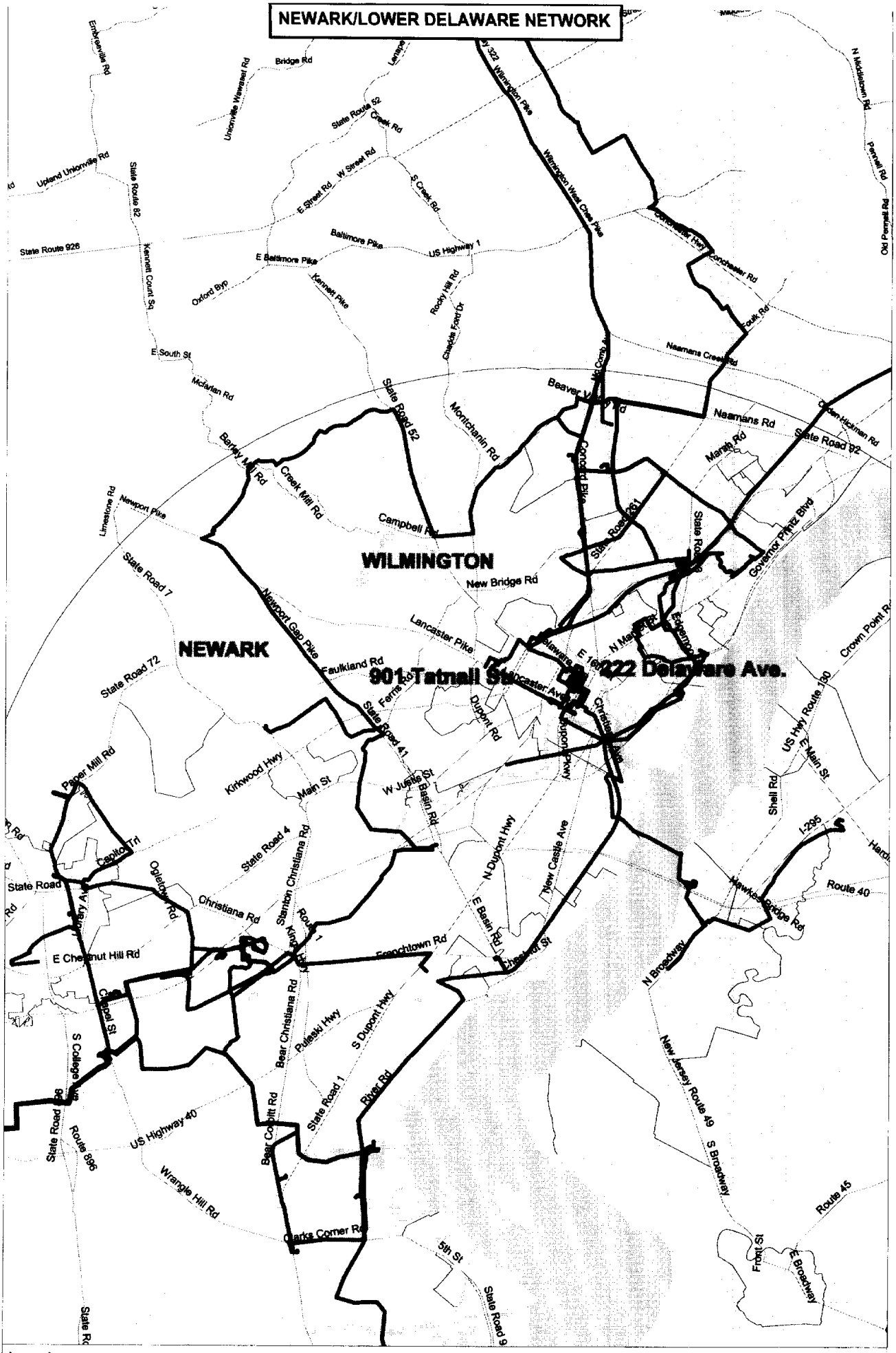
NEWARK/LOWER DELAWARE NETWORK



Legend:

CSC Fiber ———

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