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Private Networks

Take your data communications to the next level

Looking for secure remote storage of mission-critical data?

Ready to build a high-speed network that can deliver Internet, telephone, video and other enhanced services throughout your business?

An enterprise private network (EPN) with dark fiber from NEESCom will let you take advantage of many data communications opportunities now available to companies competing in today's fast-changing e-business environment.

With NEESCom dark fiber, you control your communications costs and network expansion rate. The capacity you lease from us at a fixed price is virtually unlimited. You decide how much bandwidth you provision. With our fully integrated 24 x 7, maintenance and network monitoring system you can be sure your data is safe and secure at all times.

NEESCom's private network customers also get quick, easy access to our state-of-the-art infrastructure that includes more than 500 route miles of fiber along major transportation corridors, numerous local rings in metro areas, access to major carrier POPs and an array of fully supported collocation facilities and regeneration sites throughout New England.

Last, but by no means least, you get the unique benefit of NEESCom's unmatched experience working efficiently with local municipalities to secure rights-of-way and permits, helping to ensure that your enterprise gets just the data services it needs at maximum speed to market and minimum cost.

[Site Map](#)

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Company

NEESCom builds and leases facilities based dark fiberoptic networks and metro rings for data transmission, telephone and Internet access. As a carrier neutral provider of dark fiber, we offer unique market opportunities for unlimited bandwidth at a fixed cost. Our mission is to make local telecommunications competition work by connecting New England communities with the power of light. The NEESCom's point-to-point network currently totals more than 700 route miles and is strategically designed to offer our customers access to over 50 ILEC central offices and major carrier POPs. Our fiber rings in major metro areas of New England are bundled with turn-key access to rights-of-way and pre-secured easements. We also custom build and lease private enterprise networks.

NEESCom is playing a lead role in bringing broadband to New England by constructing the dark fiberoptic infrastructure required for advanced telecommunication. NEESCom is managed by [Gridcom](#), a subsidiary of National Grid USA that is based in Westborough, Mass. Gridcom provides infrastructure and turnkey services for the telecommunications industry. National Grid USA's core business is the transmission and distribution of electricity and natural gas.

Information for investors is available at the **National Grid Transco** site:
<http://www.ngtgroup.com>

We welcome inquiries about the company as well as your comments or suggestions about this web site:

e-mail: sales@neescom.com

fax: 508.389.3001

telephone: 508.389.3300

mail: **NEES**Com

25 Research Drive

Westborough, MA 01582

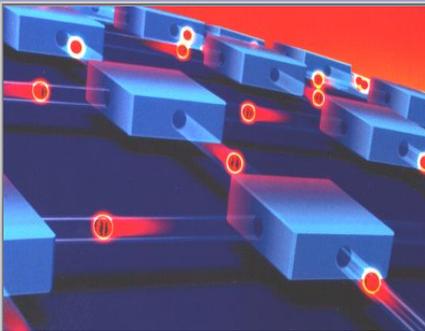


- COMPANY OVERVIEW
- **PRODUCT / SERVICES**
- NETWORK MAP
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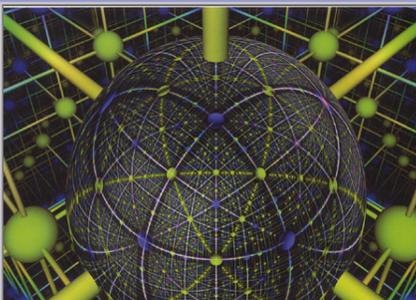
- SONET Private Line Service
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Product/Services

The Neon Footprint.pdf



SONET Private Line Service



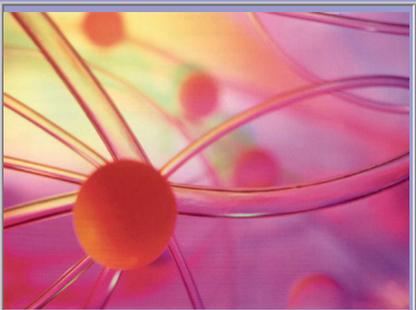
Central Office Access Service



Wavelength Service



Ethernet Private Line Service



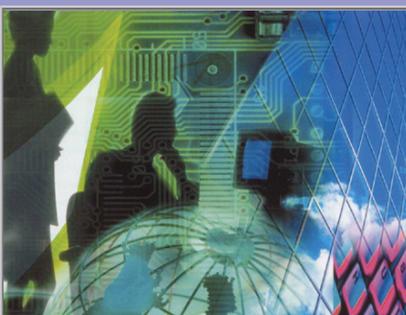
SONET Virtual Private Network Service



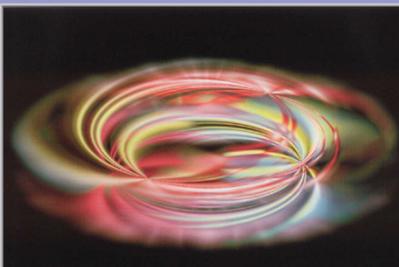
Custom Private
Optical Network
Solutions



Network Control
Center Service



Colocation
Service



Dark Fiber
Service



Enterprise
Service

NEON ENABLES OPTICAL NETWORKING

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NEON COMMUNICATIONS SONET PRIVATE LINE SERVICE

NEON Communications offers a regional network supporting long-haul and metro SONET private lines. SONET private lines on NEON's network provide a highly reliable complete network solution for carriers and service providers. NEON's network connects Tier 1 cities over our Express long-haul network and also provides connectivity from key Tier 2 and 3 cities to Tier 1 cities. This regional connectivity combined with NEON's metro connectivity, connectivity to Incumbent Local Exchange Carrier (ILEC) central offices, and key carrier hotels provides a capillary network for carriers and service providers to expand their footprint in order to reach all of their customers in the Northeast and mid-Atlantic region.

LONG-HAUL SONET PRIVATE LINE

NEON's Long-Haul Express SONET Private Line Service provides connectivity to major Tier 1 cities including Boston, New York, Philadelphia, Baltimore, and Washington, DC. The Express Service offers scalable, reliable, high bandwidth solutions throughout one of the most bandwidth intensive telecommunications markets in the world.

NEON's Long-Haul Regional SONET Private Line Service provides connectivity to Tier 2 and 3 cities throughout the Northeast and mid-Atlantic region.

NEON's network incorporates intercity, regional, and metropolitan ring architecture, providing significant reach and market coverage and high reliability throughout the network.

METRO SONET PRIVATE LINE

NEON's Metro SONET Private Line Service provides an efficient solution to access key carrier hotels, Internet peering and transit points, as well as the Public Switched Telephone Network (PSTN) in metropolitan areas. NEON has built metro networks in Tier 1 cities to deliver maximum capillarity. NEON's metro capillarity also includes suburban cities and towns as well as metro networks in select Tier 2 and 3 cities.

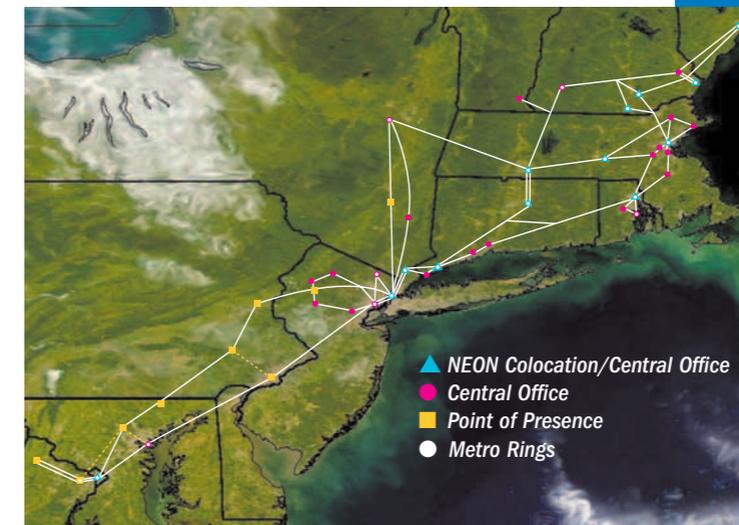
FEATURES AND BENEFITS

When you connect into NEON's network, you are connecting into the highest density, most valuable telecommunications market in the world, with extensive on-net long-haul, regional, and metro connectivity including key central offices, tandems, and carrier hotels.

- Flexible Bandwidth—DS-3, OC-3, OC-12, OC-48
- Dedicated OC-192 System Solution (4xOC-48 handoffs)
- Multi-Application Support—SONET supports all common networking requirements: circuit switched voice, Asynchronous Transfer Mode (ATM), frame relay, and Internet Protocol (IP)
- Reliable—Physically diverse, self healing, protected SONET architecture
- Survivable—Highest level of survivability
- Available—24x7x365 network surveillance

SONET PRIVATE LINE SERVICE SPECIFICATIONS

	Long-Haul	Metro
Bandwidth	DS-3—Dedicated OC-192	DS-3—Dedicated OC-192
Protection	Full SONET protection with route diverse ring architecture in most areas	Full SONET protection with route diverse ring architecture in most areas
Network Technology	Utilizes NEON's diverse state-of-the-art DWDM network	Utilizes NEON's diverse metro DWDM network and traditional metro fiber
Availability	Portland, ME—Washington, DC	Over 160 POPs including tandems, central offices, and carrier hotels from Portland, ME—Washington, DC
Management	24x7x365 monitoring and surveillance	24x7x365 monitoring and surveillance
Protocol Support (Over SONET)	Circuit switched voice, ATM, frame relay, IP, and video	Circuit switched voice, ATM, frame relay, IP, and video
Protection Specifications	ON-NET	OFF-NET LOCAL LOOP
Availability	99.999%	99.99%
Bit Error Rate	1x10 ⁻⁹	1x10 ⁻⁹
Error Free Seconds	1x10 ⁻⁹	1x10 ⁻⁹
Mean Time To Repair (MTTR)	3 Hours	4 Hours



NEON COMMUNICATIONS CENTRAL OFFICE ACCESS SERVICE

NEON's Central Office (CO) Access Service provides wholesale, high bandwidth SONET private line connectivity to key Incumbent Local Exchange Carrier (ILEC) COs for carriers and service providers serving the enterprise market. SONET private lines can support multiple service types including voice, data, and Internet access. NEON offers SONET private line connectivity from OC-3 through OC-48 as well as electrical DS-3s.

Carriers can connect to NEON from their colocation within the CO or order ILEC services directly to the NEON presence in the CO at the DS-3 level and above for virtual colocation.

NEON's CO Access Service is ideal for carriers and service providers who want to:

- Aggregate CO traffic from their presence in the CO over NEON's fully protected SONET network

- Create a virtual presence in a CO by utilizing NEON's presence to aggregate traffic back to a central location/carrier hotel

- Cross Local Access and Transport Area (LATA) boundaries with aggregated traffic via a single carrier

BENEFITS

How can you benefit from NEON's CO Access Service?

- **Market Reach:** Expand your market reach without having to colocate in every CO and market by utilizing NEON's presence and interLATA backhaul capabilities. NEON has a dense footprint spanning from Maine to Washington, DC.

- **Capital Savings:** Instead of investing time and capital in expensive network infrastructure, you can utilize NEON's network infrastructure to build your

network. Customers can leverage NEON's state-of-the-art optical network as a low cost way to aggregate traffic from the CO and backhaul over NEON's regional or long-haul network.

- **Tandem Access:** NEON has established connectivity to many of the key ILEC tandems in each market.

- **Availability:** NEON's network is available today connecting to over 55 COs throughout the mid-Atlantic and Northeast.

- **Customer Support:** 24x7x365 network monitoring and trouble resolution.

- **Flexibility:** NEON can provide an end-to-end solution for DS-3 and above providing circuit provisioning and management. The demarcation can be at your end customer location or at a CO with you controlling last mile access.

CURRENT CENTRAL OFFICES

City	Address
Connecticut	
Bridgeport	365 John
Greenwich	16 Sherwood
Hartford	111 Trumbull
New Haven	400 State
Stamford	555 Main

District of Columbia	
Washington	30 E SW

Massachusetts	
Boston	185 Franklin
Boston	41 Belvidere
Boston	6 Bowdoin
Boston	8 Harrison
Brockton	180 Court
Brockton	65 Crescent
Cambridge	10 Ware
Cambridge	210 Bent
Framingham	141 Union
Lawrence	425 Canal
Newton	787 Washington
Quincy	1070 Hancock
Salem	35 Norman
Springfield	295 Worthington
Waltham	106 West
Worcester	15 Chestnut

Maryland	
Baltimore	323 N. Charles

Maine	
Portland	45 Forest

New Hampshire	
Dover	57 Thomas
Keene	64 Washington
Manchester	25 Concord
Nashua	124 W. Pearl
Portsmouth	56 Islington

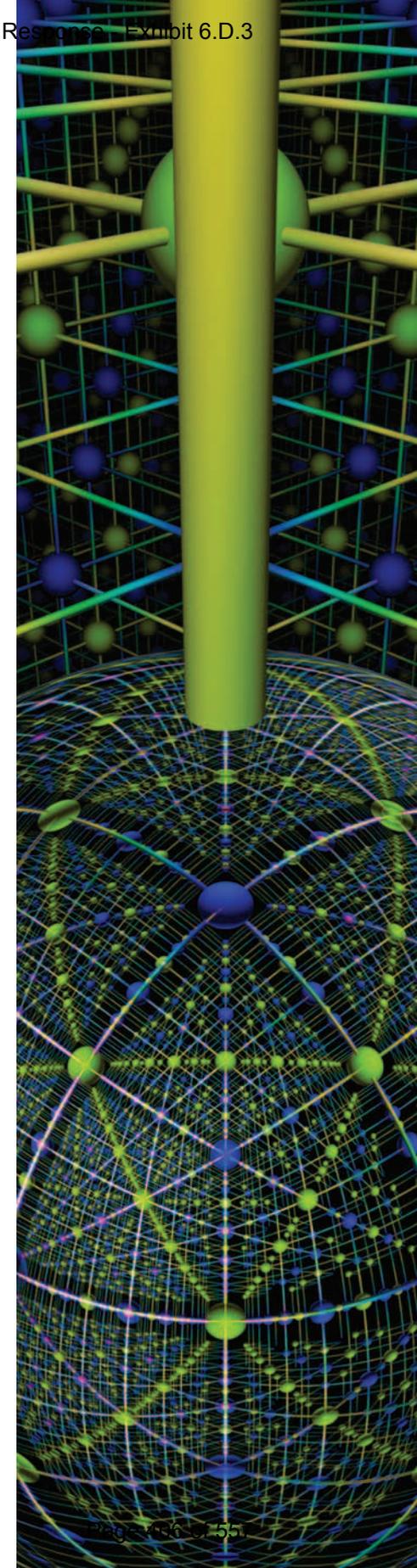
City	Address
New Jersey	
Elizabeth	1196 E. Grand
Hackensack	256 State
Morristown	37 Maple
Newark	95 William
Piscataway	4 Skiles
Rochelle Park	75 W. Passaic
Somerville	172 W. Main

New York	
Albany	158 State
Manhattan	104 Broad
Manhattan	1095 Ave of Americas*
Manhattan	140 West*
Manhattan	204 2nd*
Manhattan	208 E. 79th*
Manhattan	210 W. 18th*
Manhattan	221 E. 37th
Manhattan	227 E. 30th*
Manhattan	228 E. 56th*
Manhattan	230 W. 36th*
Manhattan	435 W. 50th
Manhattan	33 Thomas/ 323 Broadway*
Poughkeepsie	20 S. Hamilton
Spackenkill	15 Stuart
Wappingers Falls	10 South
White Plains	111 Main

Rhode Island	
Cranston	56 Phenix
Providence	1096 Broad
Providence	234 Washington
Warwick	2557 W. Shore

Vermont	
Brattleboro	213 Main

*Planned expansion



NEON COMMUNICATIONS

WAVELENGTH SERVICE

NEON Communications' innovative Wavelength Service provides a flexible and scalable high capacity transport solution with the benefits of competitive costs, improved speed to market, and enhanced network control. NEON's Wavelength Service is a "virtual fiber" service, providing transponder-based 2.5 Gbps and 10 Gbps optical wavelength capacity. NEON's Wavelength Service can be configured as either a protected or unprotected wavelength. The Wavelength Service can be used in applications such as supporting layer two and three data networks, or, alternatively, providing route diversity or ring closure for layer one SONET networks.

NEON offers two types of Wavelength Service to address both the long-haul and metro markets:

Express Service

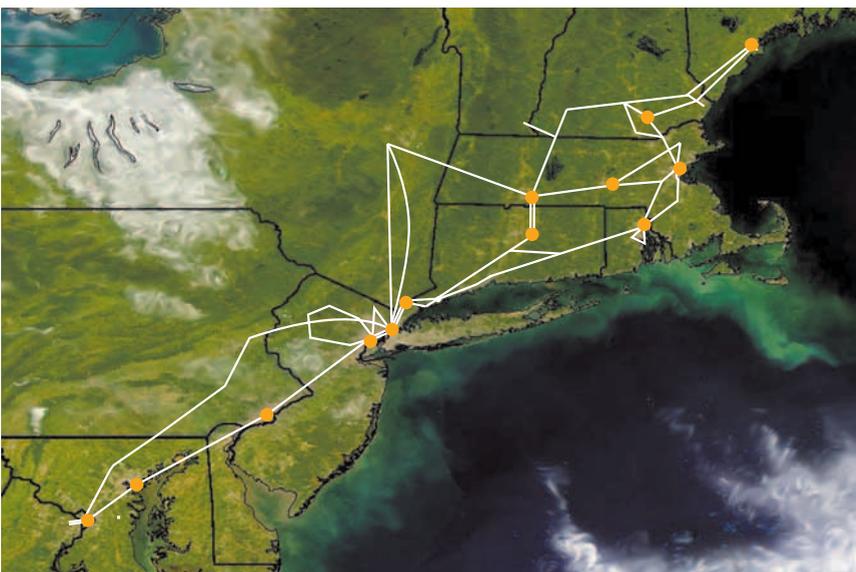
NEON's Express Service provides long-haul 2.5 Gbps or 10 Gbps Wavelength Service among NEON's Tier 1 city collocation Points of Presence (POPs). Express Service provides connections between Boston, New York City, Philadelphia, and Washington, DC.

Metro Service

NEON's Metro Service connects NEON's collocation POPs to other NEON POPs within a metro region. Metro Service is a

point-to-point solution with options for protected and unprotected connectivity to POPs on the NEON network. Metro Service provides for 2.5 Gbps and 10 Gbps wavelengths.

NEON's Wavelength Service allows customers to lease individual wavelengths as a secure, private resource for an alternative to capital intensive and resource intensive dark fiber builds. NEON's Wavelength Service uses Dense Wave Division Multiplexing (DWDM) technology and involves unique wavelength optical signals that are multiplexed and transmitted over a single fiber. At the receiver end, the composite signal is de-multiplexed and the individual unique signals are recovered. An optical channel consists of two wavelengths to deliver bi-directional communications. Transponders at end locations are connected directly to NEON's DWDM optical layer and provide a non-proprietary, open interface to customer network elements, thereby achieving virtual fiber connectivity between the customer's elements.



● Wavelength POPs

FEATURES AND BENEFITS

- **Scalable**—Long term access to scalable, high bandwidth capacity as needs expand; 2.5 Gbps & 10 Gbps
- **Easy to Deploy**—Dark fiber features with the ease of a lit service
- **Cost Effective**—Bulk point-to-point bandwidth at competitive rates
- **Reduces network management requirements and resources**
- **Customizable to Meet your Business Objectives**—Available in both protected and unprotected configurations
- **Diverse Routes**—Available to improve customer network reliability and survivability
- **Close your SONET rings with clear channel capacity**
- **Supports Multiple Protocols**—Seamless support for your IP, ATM, frame relay, and circuit switched voice services
- **24x7x365 network surveillance**

WAVELENGTH TECHNICAL SPECIFICATIONS

	Express	Metro
Bandwidth	2.5 Gbps (OC-48) 10 Gbps (OC-192)	2.5 Gbps (OC-48) 10 Gbps (OC-192)
Protocol Independent	Open interfaces support all major transport protocols: ATM, SONET, IP, etc.	Open interfaces support all major transport protocols: ATM, SONET, IP, etc.
Handoff Optical Reach (fiber dependant)	2.5 Gbps 30 miles 10 Gbps 20 miles	2.5 Gbps 15 miles 10 Gbps ICB
Optional Route Diversity	Yes	Yes
Optional Optical Protection of Diverse Routes	Yes	Yes
Availability	Boston, MA New York, NY Philadelphia, PA Washington, DC	Boston, MA Worcester, MA Springfield, MA Providence, RI Manchester, NH Hartford, CT Portland, ME New York, NY White Plains, NY Newark, NJ Philadelphia, PA Baltimore, MD Washington, DC

Protection Specifications	Point-to-Point	Optically Protected Route Diverse
Availability	99.9%	99.99%
Bit Error Rate	1x10 ⁻⁹	1x10 ⁻⁹
Error Free Seconds	99.9%	99.9%
Mean Time To Repair (MTTR)	8 hours	3 hours

NEON COMMUNICATIONS ETHERNET PRIVATE LINE SERVICE

NEON offers carrier class Ethernet transport services to meet the varying connectivity needs of carriers, ISPs, and large scale enterprise networks.

NEON's Ethernet Private Line Service offers dedicated, point-to-point connectivity at Fast Ethernet (50 Mbps or 100 Mbps) as well as Gigabit Ethernet (600 Mbps or 1000 Mbps). Ethernet can be used to support applications such as LAN-to-LAN connectivity, storage area networking, Internet access, or disaster recovery solutions.

To meet the needs of its customers, NEON has designed the service so that it can be provisioned over a single path or, for added reliability, over a diverse path.

Ethernet Private Line Service is available at most of NEON's locations in both metro and long-haul configurations.

CONNECTION MODEL

Fast Ethernet handoffs will be provided via copper 100BaseTx interface over category 5 twisted pair cable (Cat 5).

Gigabit Ethernet handoffs will be provided via 1000BaseLX.

SERVICE LEVEL AGREEMENT

Offered via On-Net Service

- Network Availability
 - Diverse Path
 - ≥ 99.99% measured annually
 - Single Path
 - ≥ 99.9% measured annually
- Throughput
 - Fast Ethernet
 - 100% (45 Mbps and 100 Mbps)
 - Gigabit Ethernet
 - 100% (600 Mbps and 1000 Mbps)
- Mean Time to Repair
 - 4 hours

Note: The demarcation point for evaluating performance is the NEON Ethernet port and does not include any media converters or connections beyond the Ethernet port.

FEATURES, ADVANTAGES, AND BENEFITS

- Ease of Use: NEON Ethernet Private Line Service eliminates the need for additional WAN protocol layers
- Cost Savings: Ethernet equipment interfaces are lower cost equipment interfaces
- Reliable: Carrier grade 99.99% availability (over a diverse path) and 50 ms recovery
- Scalable: Fast Ethernet from 50 Mbps to 100 Mbps and Gigabit Ethernet from 600 Mbps to 1000 Mbps
- Flexible: The service can be designed to utilize a single path or diverse path
- Dedicated Path: Ensuring private line security

TECHNICAL SPECIFICATIONS

	Fast Ethernet	Gigabit Ethernet
Network Technology	Fast Ethernet over NEON's state-of-the-art SONET network	Gigabit Ethernet over NEON's state-of-the-art SONET or DWDM optical network
Throughput	50/100 Mbps	600/1000 Mbps
Handoffs	Category 5, RJ-45	Single mode fiber
Protection	Unprotected handoff with full SONET protection on the NEON network	Unprotected handoff. Can be designed as single path or diverse path over a SONET or wavelength infrastructure
Network Management	24x7x365 monitoring and surveillance	24x7x365 monitoring and surveillance
Network Options	Long-haul and metro configurations	Long-haul and metro configurations
Availability	Most on-net locations throughout the NEON network	Most on-net locations throughout the NEON network

NEON COMMUNICATIONS

SONET VIRTUAL PRIVATE NETWORK SERVICE

NEON's SONET Virtual Private Network (VPN) Service combines the reliability and availability associated with dedicated SONET rings with the ease of ordering individual circuits to provide you with a service that scales with your network needs and enhances your bottom line.

NEON's SONET VPN Service is available in two arrangements, Hubbed and Any-to-Any Connectivity. Both arrangements provide either an OC-48 or OC-12 virtual SONET ring connecting a predetermined set of locations. Once the service is established, any combination of DS-3s through OC-12s can be added up to the total capacity of the network. Provisioned over multiple, shared SONET rings, the service is fully protected with SONET reliability.

SONET VPN Service is a flexible offering that takes the guesswork out of network planning. Carriers can quickly add incremental bandwidth as demand materializes. It also offers a "pay as you grow" financial model that minimizes your up-front costs and better matches revenue to expenses.

NEON's SONET VPN Service is ideal for carriers and service providers who:

- Have known locations that need bandwidth but do not know the exact amount required between locations
- Need to rapidly turn up additional bandwidth
- Need the reliability and availability associated with a dedicated SONET ring, but want to minimize cost and maintain flexibility

BENEFITS

- **Flexible**—With SONET VPN, carriers don't need to know the exact service mix up front. They can add bandwidth where they need it and as they need it.
- **Cost Effective**—With a low up-front cost and a "pay as you grow" model, SONET VPN enables carriers to better match revenue to expenses. It also allows carriers to avoid the cost and trouble associated with building dedicated SONET rings.
- **Speeds Time to Market**—Rapid circuit turn up ensures that carriers have the bandwidth available when they need it, guaranteed.

- **Reliable**—24x7x365 network monitoring and technical support.
- **Available**—NEON's network is available today spanning from Maine to Washington, DC. SONET VPN is available at specific locations throughout the NEON network. Contact your Account Manager for a list of buildings included in this service offering.

Provisioning

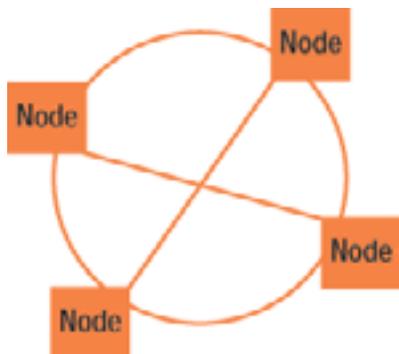
Once the SONET VPN Service is established, provisioning new circuits will occur within 5 business days, guaranteed. (See Service Level Agreement (SLA) for additional details)

Provisioning SLA

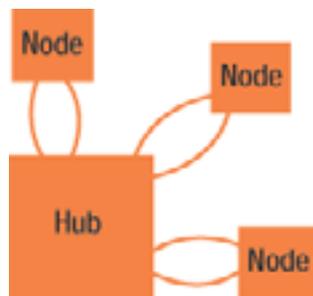
The standard provisioning interval to turn up a new circuit will be 5 business days, guaranteed. Customers will receive a credit equal to 5 days of free service on that circuit for each day that the circuit is late, up to a maximum of 60 days of free service.

SONET VPN SPECIFICATIONS

	OC-12	OC-48
Maximum # of STS-1s	12	48
Bandwidth Supported	DS-3, OC-3	DS-3, OC-3, OC-12
Performance Management	24x7x365 monitoring	24x7x365 monitoring
Restoration Interval	50 msec	50 msec
Reliability	99.999%	99.999%
Standards Compliance	Telecordia GR-253 Core	Telecordia GR-253 Core



Any-to-Any Connectivity Arrangement



Hubbed Arrangement

NEON COMMUNICATIONS NETWORK CONTROL CENTER SERVICE

NEON's Network Control Center Service provides clients with network monitoring and associated technical services utilizing NEON's state-of-the-art Network Control Center (NCC). NEON's NCC is staffed by highly trained professionals on a 24x7x365 basis, has well-established methods and procedures, and a track record of successfully monitoring and managing small to mid-sized telecom networks.

NEON's NCC Service ranges from basic network surveillance and security to premium services such as dispatch services and more complex technical support. NEON's NCC Service is focused on providing high quality network management supporting Nortel™ and Cisco™ Dense Wave Division Multiplexing (DWDM) and SONET systems. NEON's NCC Service is offered as primary or backup service.

NEON's NCC is a state-of-the-art facility with tri-screen computer monitoring stations and main displays, ticketing and messaging systems, and two TV network screens to monitor major news events that could impact a network. Customers can communicate with the NCC 24x7x365 and have the peace of mind that their networks are under constant, high-quality surveillance.

NEON's NCC Service Implementation

NEON's NCC Service is offered in two classes of service:

Standard NCC Service

The Standard Service includes network monitoring, fault isolation, and monthly management reports.

■ **Network Monitoring**—Monitoring will be offered on Nortel or Cisco DWDM and SONET equipment. NEON will perform basic event recognition and logging. Events will consist of alarms and alerts. The NEON Surveillance Technician will notify the telecom company of the condition.

NEON will take trouble calls from the telecom company's technical staff.

The NEON NCC technician will answer incoming calls on a private telecom line from your company's technicians to address trouble reports and provide other relevant information. Only network trouble calls are to be called into this number.

■ **Fault Isolation**—The NEON technician will isolate faults to the equipment reporting the fault and will notify the customer utilizing the agreed to procedures.

■ **Monthly Management Reports**—NEON will provide a monthly report to the customer including the following information: total alarms, trouble tickets logged, total critical alarms, trouble ticket status, total major alarms, calls logged, and total minor alarms.

Premium NCC Service

NEON's Premium NCC Service includes the Standard NCC Service as well as a selection of *a la carte* items including repair personnel dispatch service, centralized technical support, and daily management reports.

■ **Repair Personnel Dispatch Service**—NEON will act as your trouble dispatch center. NEON will dispatch your repair personnel based on your procedures and pre-specified contacts by site or network element.

The Premium Dispatch Service streamlines the dispatch process allowing the telecom company to meet or exceed Mean Time to Repair (MTTR) objectives.

■ **Centralized Technical Support**—NEON will provide the customer access to NEON's NCC technical support staff. NEON's technical support staff will assist in identifying, isolating, and correcting network troubles using the NCC software.

■ **Daily Management Reports**—NEON will provide the customer with a daily management report detailing the following metrics and trends: open trouble tickets, total critical alarms, closed trouble tickets (last 24 hours), total major alarms, schedule network maintenance, and total minor alarms.



FEATURES, ADVANTAGES, AND BENEFITS

- NEON's NCC Service provides other carriers with the ability to quickly scale up NCC activities without adding manpower or hardware.
- NEON's staff is technically competent and trained on Nortel and Cisco equipment, two of the major providers of telecom equipment.
- NEON's NCC Service includes both a Primary NCC and a Backup NCC.
- Companies with restricted capital expenditure budgets need not invest in NCC hardware, software, and facilities.
- NEON's NCC Service provides a quality of service that is needed to win business in today's highly competitive environment.
- NEON's NCC Service is designed to specifically address the needs of small to mid-size telecom companies.
- NEON's NCC Service prices are highly competitive.

NCC TECHNICAL SPECIFICATIONS

	Primary	Backup
Hours of Operation	24x7x365	24x7x365
Equipment Supported	Nortel and Cisco DWDM and SONET equipment	Nortel and Cisco DWDM and SONET equipment
Services Supported	DS-3 through OC-192	DS-3 through OC-192
Nodes Supported	10-50*	10-50*
Management Reports	Yes	Yes
Network Node Interconnection Requirements	Frame Relay	Frame Relay

*Networks over 50 nodes will be supported on an individual case basis.

NEON COMMUNICATIONS COLOCATION SERVICE

NEON's Colocation Service provides secure, state-of-the-art colocation centers strategically located to facilitate high bandwidth connectivity to the NEON network, carrier hotels, local switch offices, and numerous service providers.

Locating your equipment in NEON's colocation centers ensures fast provisioning without expensive and time-consuming buildouts. We take care to house your equipment in a fully monitored facility that provides secure and reliable high bandwidth access to NEON's network.

NEON offers Colocation Service in 20 facilities located throughout the Northeast and mid-Atlantic states. Our colocation centers offer state-of-the-art, secure, carrier class, conditioned space supporting power ready racks, cabinets, and bulk space.

FEATURES AND BENEFITS

Valuable Locations

NEON's colocation centers are strategically located in key downtown metropolitan areas within close proximity of all major carrier and Internet facilities, ensuring easy connectivity to the highest value communications markets in the United States.

Highest Connectivity

NEON's colocation centers have full connectivity to NEON's metropolitan loops and backbone network, providing connectivity to central offices, long distance carriers, carrier hotels, and Internet network access points.

Scalable Bandwidth

NEON's metro and long-haul optical network is ready to provide high capacity, scalable SONET bandwidth in increments of DS-3, OC-3, OC-12, and OC-48, and managed wavelengths in both 2.5 Gbps

and 10 Gbps. Ethernet Private Line transport services with point-to-point connections at either 50 Mbps or 100 Mbps are also available. NEON utilizes dense wave division multiplexing in both metro and long-haul networks to ensure availability and scalability.

Available

NEON's colocation centers are built and fully equipped with all systems including racks, AC/DC power, HVAC, backup generators and batteries, and full NEON network connectivity.

Unparalleled Security and Reliability

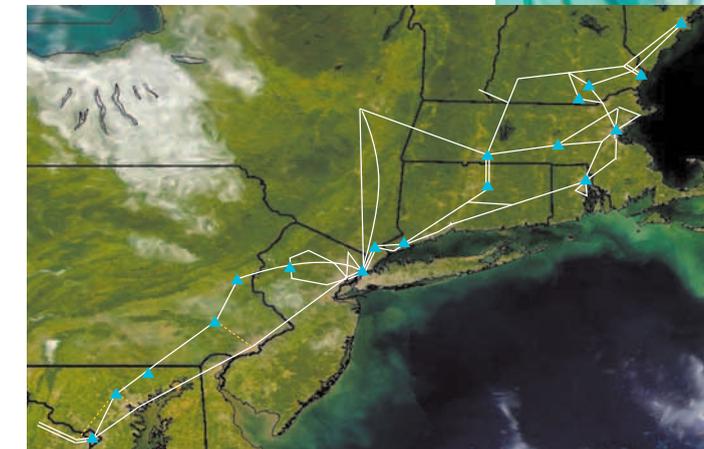
NEON's colocation centers employ the latest in controlled access systems and security, ensuring the highest level of security. Reliability is designed into the facilities with 24x7x365 surveillance, fully redundant systems, and local field technicians, ensuring carrier class facilities.

COLOCATION SERVICE SPECIFICATIONS

Racks	Standard 23x84
Cabinets	Standard 23x36x84
Floor Space Range	600-10,000 Sq. Ft.
Power DC	15 Amps/30 Amps/60 Amps
Power AC	120V Convenience Outlets
Backup Generators	72 Hour Min. Run Time Diesel Generators
Battery Backup DC	4 Hour Min.
Grounding	Separate Equipment and Building Grounds
Cooling Systems	Fully Redundant HVAC
Building Fiber Entry	Dual Diverse Fiber
Access to Facility	24x7
Remote Monitoring	NEON NCC

AVAILABILITY

- Boston, MA (multiple sites)
- Chester Springs, PA
- Hartford, CT
- Hellertown, PA
- Manchester, NH
- Nashua, NH
- New York, NY
- Owings Mills, MD
- Plainfield, NJ
- Portland, ME
- Portsmouth, NH
- Providence, RI
- Rising Sun, MD
- Springfield, MA
- Stamford, CT
- Washington, DC
- White Plains, NY
- Worcester, MA



▲ NEON Colocations

NEON COMMUNICATIONS

DARK FIBER SERVICE

NEON Communications has built a 2,000-mile fiber optic network utilizing advanced AllWave™ and TrueWave® fiber from Lucent Technologies, on which selected strands on specific routes are available to customers. NEON offers both long-haul and metro dark fiber in specific regions and NEON can acquire fiber for customers on a custom integration basis.

NEON Communications provides individual dark fiber strands to our customers on an up-front, leased basis. The timing and quantity of fiber strands

available is determined on an individual case basis, depending on NEON's current and projected fiber inventory. As part of any dark fiber lease, NEON provides the necessary facilities including regeneration huts, hand-off points, as well as access to NEON's colocation centers for locating customer equipment. NEON has deployed the latest in fiber optic cables utilizing a number of types, depending on the routes, to meet the needs of current and future optical networks.

NEON Communications' fiber facilities are in secure rights-of-way, including electrical utility transmission and distribution plants and underground conduits. Utilizing unique rights-of-way from common rail bed and highway routes, NEON is uniquely able to provide fiber capacity that is geographically diverse.

NEON Communications' fiber deployment with high Point of Presence (POP) connectivity and ring-based network architecture provides a unique resource upon which to build a robust and valuable communications network.



NEON COMMUNICATIONS, INC.
 2200 WEST PARK DRIVE, WESTBOROUGH, MA 01581 800.891.5080 508.616.7800 FAX 508.616.7895
 WWW.NEONINC.COM

NEON COMMUNICATIONS

ENTERPRISE SERVICES

NEON Communications, Inc. is a facilities-based wholesale communications provider, supplying comprehensive end-to-end telecom services to communications companies and enterprise customers in the 12-state Northeast and mid-Atlantic region. NEON provides SONET and DWDM services to a wide range of enterprise accounts and communications carriers including ILECs, CLECs, ISPs, IXCs, and wireless.

NEON takes you where you want to go with complete and affordable end-to-end service. From start to finish, we focus on delivering the highest level of customer service, including speed and ease of provisioning, full service project management, custom designed solutions, 24x7x365 support and flexible billing options. NEON owns and operates the network as a facilities-based provider of colocation, regeneration and amplifier facilities, not as a services reseller. Major telecommunications providers lease services from NEON, and in turn, resell to their end-users.

Unlike our competitors, our bandwidth extends to cities and towns beyond the “first tier” markets of Boston, New York, and Washington, DC. Our “second tier” markets provide access to such cities as Portland, Portsmouth, Manchester, Springfield, Worcester, Providence, and Hartford.

The NEON network consists of 2,500 route miles (over 100,000 fiber miles) from Portland, Maine to Washington, DC; including connectivity to over 100 POPs (central offices, carrier hotels, IXC POPs, etc.). The NEON rights-of-way include electric utility conduits and public carrier-based facilities, providing geographic diversity throughout the footprint and from other carriers.

NEON uses physically diverse metro rings and redundant equipment in major service areas. The network technology is based on SONET rings at 10 Gbps (OC-192) and DWDM waves at 160 Gbps (16 waves @ 10 Gbps each). The SONET technology provides enterprise customer hand-offs at speeds up to 2.5 Gbps (OC-48) in a diverse ring architecture. DWDM technology supports protected and unprotected wavelengths of 2.5 Gbps and 10 Gbps.

KEY NEON ENTERPRISE SERVICES

- **SONET Private Line**—Physically diverse, looped SONET services at bandwidth levels including DS-3, OC-3, OC-12, and OC-48.
- **Lambda (DWDM)**—Flexible and scalable high capacity transport at 2.5 Gbps and 10 Gbps, configured as either protected or unprotected wavelengths.
- **Ethernet**—Dedicated service provides point-to-point Ethernet connections at either 50 Mbps or 100 Mbps.
- **Custom Private Optical Network Solutions**—On your behalf, NEON can design, build, and manage your network. NEON supports multiple protocols such as Fast Ethernet, Gigabit Ethernet, ATM, as well as storage protocols such as Fibre Channel.
- **Central Office Access**—Connections to major carriers throughout the NEON footprint over NEON's fully protected SONET network.
- **Colocation**—Secure, carrier class conditioned, and power ready space, racks and cabinets strategically located to facilitate high bandwidth connectivity to other POPs, carrier hotels, local switch offices and numerous service providers.
- **NCC Services**—Includes monitoring of circuit and node status, alarming when performance falls outside established thresholds, and producing management reports.
- **Muxing**—Aggregate local DS-1 traffic and backhaul it, via DS-3s, to your desired location.

ADVANTAGES AND BENEFITS

- Utilizing the NEON network can enable you to reduce operating expenses
- Optical management and infrastructure expertise assures that you implement a network that not only meets your needs today, but tomorrow as well
- NEON builds, integrates, and manages optical networks at the carrier level meeting the same level of service provided to the nation's largest telecommunications companies
- One point of contact for all network needs
- Quarterly customer service meetings to review network performance and assure your total satisfaction
- Our monitoring capabilities allow you to view your own network
- Ability to upgrade technologies and services as they are introduced into the market without making the capital investment required in the past
- Monthly budget fixed and managed by you
- Enterprise customers can focus on their core competencies while NEON focuses on its core competency—designing, building, and maintaining complex networks
- Our use of electric utility rights-of-way enables us to offer an unparalleled level of diversity
- NEON strives for a win/win relationship with its customers

NEON Communications is a regional, facilities-based network services provider in the 12-state Northeast and mid-Atlantic region offering alternative access services including: True Diversity (through unique rights-of-way); SONET Services (DS-3; OC-n); Metro Ethernet (GigE; Fast Ethernet); DWDM; Connections to IXCs/ISPs; Long-haul; Private Networks; Colocation; Custom Applications; Disaster Recovery (Hot Site Connectivity; Remote Storage Connectivity; CO Diversity); Managed Services (NCC Services); and Local Access (3:1 Muxing).





"Hands down, OnFiber is the most respectable carrier I have ever dealt with. [Others] pale in comparison to the concern, attention to detail and overall quality of service provided."

- Network Engineer, Beazer Homes USA, Inc.


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CUSTOMERS

Enterprise

Enterprise

[Case Studies](#)
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Finally, a network adapted to specific business requirements.

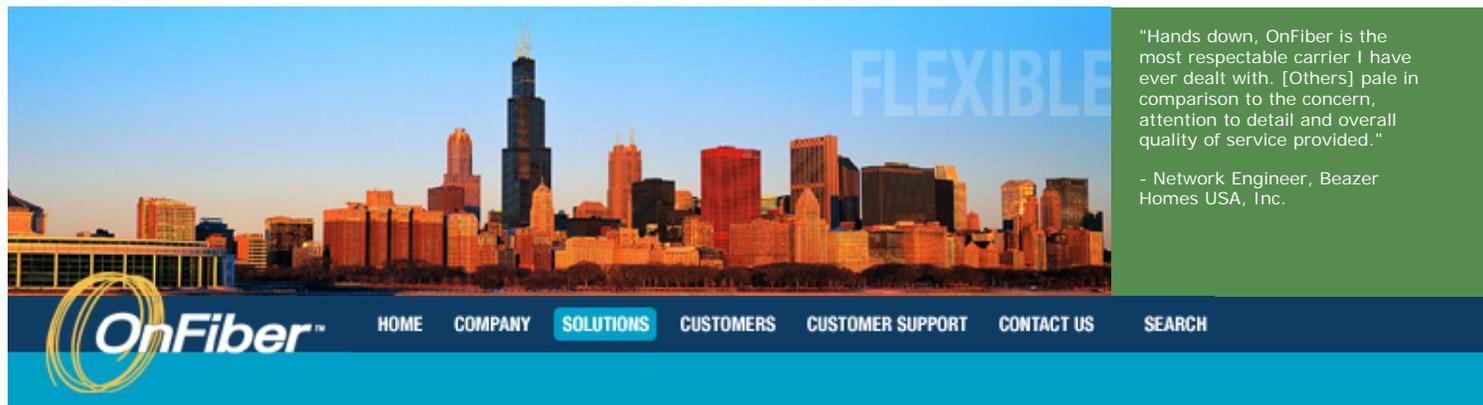
Unique networking requirements demand a unique network. With the multitude of critical applications that must be supported, an enterprise requires reliable and secure infrastructure tailored to its needs. An adaptive network solution can remedy the persistent issues enterprises are facing relating to business continuity, productivity, customer retention, consolidation and cost savings.

Businesses trust OnFiber with designing, building and operating networks created specifically for their organizations. Rather than simply positioning the network and service strengths, OnFiber first identifies customers' concerns and creates a network that addresses key issues whether they revolve around route diversity, distance limitations, capacity or availability.

OnFiber accomplishes this through a unique solution called [AdaptiveBuild™](#), an approach to network design and implementation that flows from individual customer needs into OnFiber's networks - rather than the other way around. Its focused approach to creating and managing optical infrastructure reduces operational complexity and costs, while increasing business productivity.

View a sampling of OnFiber's [Enterprise Customer List](#).

Read [AdaptiveBuild Case Studies](#) - OnFiber solving specific customer application needs.



"Hands down, OnFiber is the most respectable carrier I have ever dealt with. [Others] pale in comparison to the concern, attention to detail and overall quality of service provided."

- Network Engineer, Beazer Homes USA, Inc.

SOLUTIONS

Solutions

AdaptiveBuild
Services
Case Studies
Network

OnFiber, the reliable source for optical networks.

Through its flagship service, AdaptiveBuild™, OnFiber creates, delivers and manages custom designed metropolitan area network (MAN), wide area network (WAN) and point-to-point network solutions using a full suite of optical transport technologies including Wavelength, Ethernet, and SONET Services.

Reliable, high capacity networks built on fiber optics is what optical networks are all about. These networks enable critical business initiatives such as disaster recovery, network convergence, internet/e-commerce infrastructures and business-specific applications such as video transmission. However, even with the abundance of fiber between cities, there still remains a scarcity of fiber providers accessing individual metro-area buildings. As a result, businesses are looking for a service provider that can deliver end-to-end infrastructure as well as route diversity from the legacy provider.

The OnFiber AdaptiveBuild™ solution is the revolutionary means to create this end-to-end optical infrastructure. By bringing together deep knowledge of the US domestic fiber environment, core competencies in design and construction, and the ability to monitor and maintain these networks once operational, OnFiber is able to deploy custom networks in areas where others cannot, deliver service in aggressive timeframes, and provide cost competitive pricing.

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SOLUTIONS

AdaptiveBuild

AdaptiveBuild

MAN

WAN

Point-to-Point

Services

Case Studies

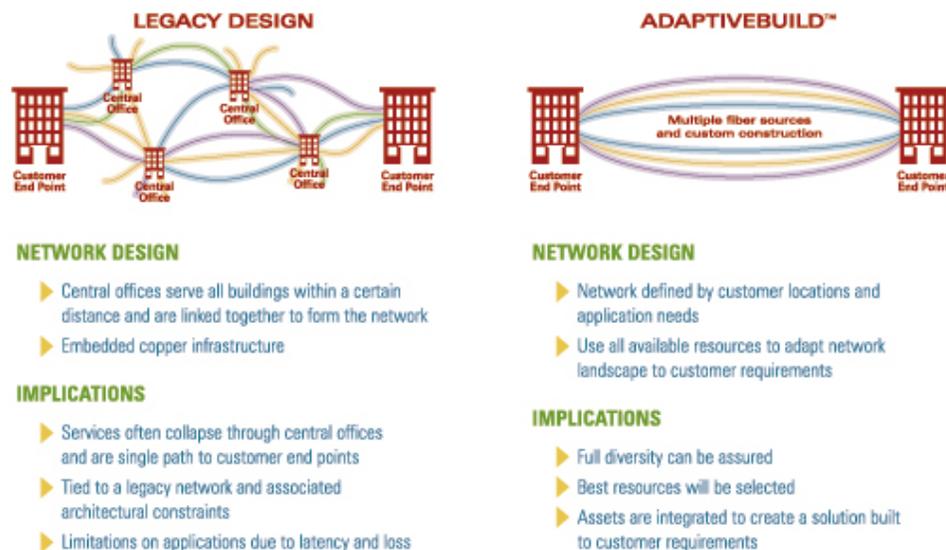
Network

What is AdaptiveBuild™?

AdaptiveBuild is a revolutionary solution providing optical networks adapted to an enterprise's unique requirements. By implementing a "system integrator-type" approach to designing, implementing and maintaining networks, AdaptiveBuild allows OnFiber to create optical infrastructure that no other company can deliver. This approach uses repeatable processes while applying OnFiber's well honed skills and proprietary knowledge.

What does it deliver?

AdaptiveBuild delivers custom-built networks to locations other service providers cannot -- in aggressive timeframes and at market leading rates. Whether a customer needs network delivered to hard-to-reach locations, wants managed services that are not readily available, or is looking for a more cost effective network, AdaptiveBuild is the only effective means to create purpose-built networks to suit specific customer needs.



How is it done?

OnFiber has built detailed databases of all available fiber and other network infrastructures, assembled a team with detailed knowledge of how to design, construct and implement networks, and developed strong expertise in project management. With all these skills and capabilities aligned behind it, AdaptiveBuild has proven to be the solution for delivering unique, highly reliable optical network infrastructure to support critical business applications.

The key to the success of the AdaptiveBuild is effectively integrating company-owned assets, acquired assets and new construction to create fully managed, end-to-end solutions.

AdaptiveBuild simplifies the complexity of building multi-site systems into one manageable process that quickly delivers customized, reliable network infrastructure.



SOLUTIONS

Services

AdaptiveBuild

Services

Wavelength

Ethernet

SONET

Case Studies

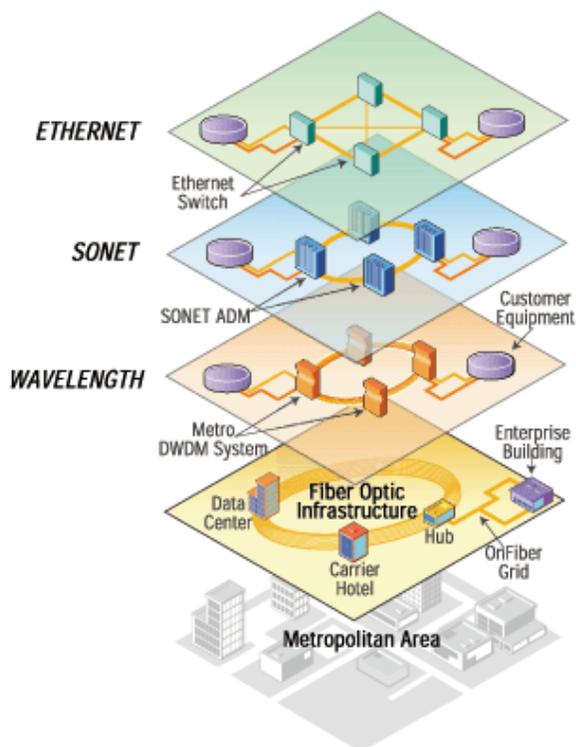
Network

Best of breed technologies enable our AdaptiveBuild networks.

Through its flagship solution, AdaptiveBuild™, OnFiber delivers fully managed, end-to-end, metropolitan area networks (MANs), wide area networks (WANs) and point-to-point network solutions that are optimized for specific needs of enterprises and service providers.

To deliver these solutions, OnFiber offers a full suite of optical transport technologies including:

- Wavelength Services. From 1.25 Gbps to 10 Gbps, OnFiber wavelength services offer protocol agnostic transport with up to 99.999% availability objectives.
- Ethernet Services. Cost effective and scalable from 10 Mbps to 1 Gbps to meet your changing bandwidth requirements.
- SONET Services. Offering the dependability of an industry standard from DS3 to OC-192 services.





CUSTOMERS

Service Providers

Enterprise

Service Providers

Network

Case Studies

Government

Solving the most difficult local connectivity challenges.

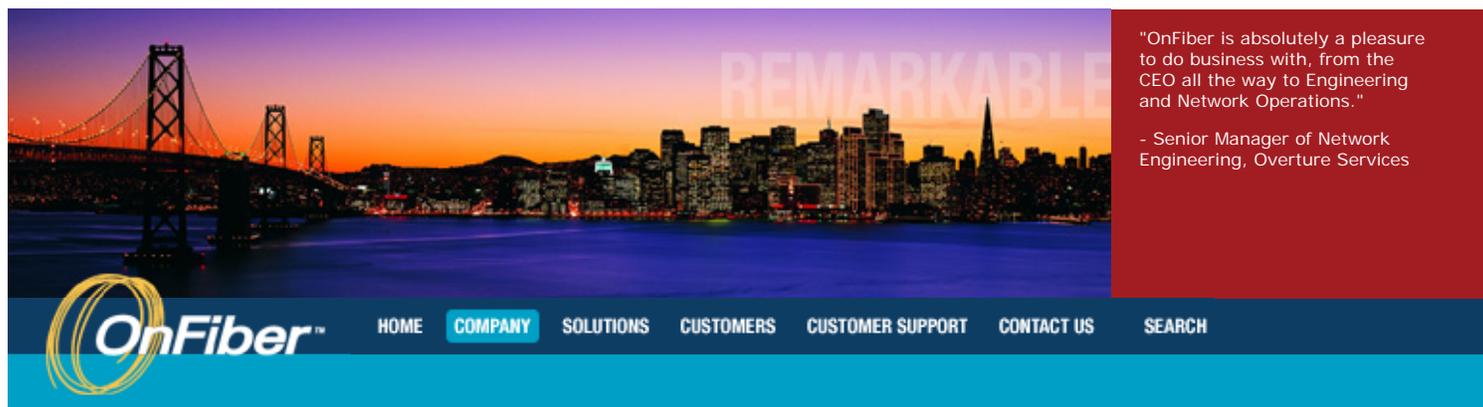
OnFiber offers carriers and service providers a better alternative to the traditional access provider. In addition to deep network footprints that interconnect established data centers and carrier hotels within a metropolitan area, OnFiber offers connectivity options to locations typically not served by other carriers. By combining company-built and operated networks with the expertise to construct new infrastructure at the local level, OnFiber takes a proactive stance to extend a service provider's network wherever the company or its end customers need to go.

OnFiber provides service providers with much more than access solutions in the metro. Customers utilize OnFiber as a 'custom shop' to extend their networks to locations few service providers can reach, within aggressive timeframes few providers can achieve. OnFiber takes customer requirements and the locations that need connectivity to design a unique solution that the service provider and its end-users will be satisfied with. OnFiber's consultative approach and construction and implementation expertise translate to a network that fits the requirements that you specify.

View [OnFiber's Facilities-Based U.S. Network](#).

View a sampling of OnFiber's [Carrier Customer List](#).

Read [AdaptiveBuild Case Studies](#) - OnFiber solving specific customer application needs.



"OnFiber is absolutely a pleasure to do business with, from the CEO all the way to Engineering and Network Operations."

- Senior Manager of Network Engineering, Overture Services



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COMPANY

Company

Executive Team
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Careers

Finally, a network provider that adapts to your business.

OnFiber is unique. Just like your company is unique. This simple reality is the basis for OnFiber's innovative and customer-centric approach to business and service. Building end-to-end, fully managed optical networks, OnFiber delivers one-of-a-kind, optimized solutions for specific needs of individual businesses and service providers.

Through its flagship service, AdaptiveBuild™, OnFiber designs, constructs and manages custom designed metropolitan area network (MAN), wide area network (WAN) and point-to-point network solutions using a full suite of optical transport technologies including Ethernet, SONET and Wavelength Services. The company's consultative process - based on OnFiber's expertise in metropolitan network design and construction - identifies specific customer needs such as disaster recovery, business continuity and network convergence to build the ideal network for each customer.

With its forward thinking and service-oriented approach to network infrastructure, OnFiber has established itself as a leader in high capacity network solutions.

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Location: Penn Telecom/Voice & Data Services

Voice & Data Services

voice & data **Services**

[Voice Services](#) - As a Competitive Local Exchange Carrier (CLEC) and an Interexchange Carrier (IXC), Penn Telecom offers you choice. Whether you need Local Dial Tone, Long Distance, 800 Number Service, or Custom Calling Cards, Penn Telecom can help you at competitive rates.



[Broadband Services](#) - From DSL connections to high speed OC-48 SONET connections, Penn Telecom can assist your business with competitive rates, fast turn-around times, and reliable service.

[Business Systems](#) - Penn Telecom is a qualified distributor of state-of-the-art telecommunications equipment that is scalable, feature-rich, and upgradeable.

- Voice Services
- Broadband Services
- Business Systems
- Carrier Hotels
- LAN/WAN Services

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Corporate Overview Voice & Data Services News & Media Online Services

Location: Penn Telecom/Voice & Data Services/Voice Services



Voice services

[Local Service](#) - Now you have a choice in local phone service. Choose Penn Telecom for your local carrier and find out what customer service really is.

[Long Distance](#) - Confused by complicated long distance calling plans? Well, don't be anymore. Penn Telecom has simple calling plans that *really* save you money.

[800 Services](#) - Does your business need a boost? With Penn Telecom 800 Service, your business can attract more potential customers since they won't have to worry about paying for the call.

[Calling Cards](#) - Need a calling card? Need a pre-paid debit calling card? We can help. Want to personalize the card for you or your business? Not a problem.

[Voice Mail](#) - Penn Telecom's Voice Mail is a voice messaging service that gives you a convenient and dependable way to communicate with people at your home or business.



Voice Services

- Local Services
- Long Distance
- 800 Services
- Calling Cards
- Voice Mail

Broadband Services

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Location: Penn Telecom/Voice & Data Services/Broadband Services



Broadband *services*

Whether you're looking for dedicated, point-to-point connections or switched service, with multiple points and burstable bandwidth, Penn Telecom has an answer. Penn Telecom has already constructed a robust SONET network which covers 300-plus miles of fiber. Not only has this network allowed Penn Telecom to provide dependable, dedicated service to our customers, but it supplies us with a solid foundation on which we have built a state-of-the-art packet network utilizing Frame Relay, ATM, and IP.



As we move toward a future of a converged voice and data network, Penn Telecom is poised to truly become the one source for all of your telecommunication needs. We invite you to review the numerous data services we offer and contact our broadband sales consultants for more information.

- [DSL \(digital subscriber line\)](#)
- [Transparent LAN](#)
- [ISDN \(BRI & PRI\)](#)
- [Frame Relay](#)
- [DS1](#)
- [DS3](#)
- [OC-n](#)
- [ATM Services](#)

Voice Services

Broadband Services

- DSL
- Transparent LAN
- ISDN (BRI & PRI)
- DS1
- DS3
- OC-n
- Frame Relay
- ATM Services

Business Systems

- Carrier Hotels
- LAN/WAN Services



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Location: Penn Telecom/Voice & Data Services/Business Services



Business systems



Penn Telecom knows your telephone system is vital to everyday operations. After all, constantly ringing telephones may be distracting, but telephones that don't ring at all truly cause alarm. A telephone system that doesn't work properly causes disruption and lowers productivity.

Whether you are looking for [Centrex](#) service or a [PBX \(Private Branch Extension\)](#) or a [Key System](#), Penn Telecom can meet your needs with competitive pricing and experienced service technicians.

Voice Services

Broadband Services

Business Systems

- PBX & Key System
- Centrex

Carrier Hotels

LAN/WAN Services

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Location: Penn Telecom/Voice & Data Services/Carrier Hotels

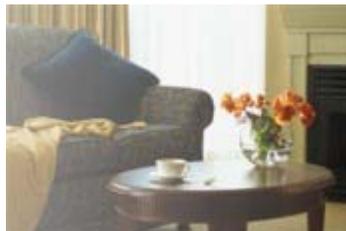
[Voice & Data Services](#)

carrier **Hotels**

Carrier Hotels (or carrier-neutral collocation facilities) provide a voice and data infrastructure that is critical for Internet Service Providers, CLECs, IXCs, and other data and wireless companies that are in need of bandwidth. Without a facility like the Carrier Hotel, many companies spend a lot of time and energy searching for space for their equipment and negotiating agreements. With our Carrier Hotels, Penn Telecom can get your company up and running quickly - at a fraction of the cost of traditional methods.

Amenities at the Hotels include:

- 24-hour security
- Controlled temperature and humidity
- Fire detection/suppression
- Generator power backup
- Access to Penn Telecom's extensive telecommunications network



Tenants can take up permanent residency, save money, and become quickly operational.

Our Carrier Hotels are [located](#) in the Pittsburgh Information & Technology Center at 322 Fourth Ave., Pittsburgh, and the Penn Telecom Sales and Service Center at 212 South Main St., Butler. Penn Telecom's Carrier Hotels are connected to more than 300-miles of fiber optics, running throughout the Pittsburgh metropolitan area.

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Location: Penn Telecom/Voice & Data Services/LAN/WAN Services

Voice & Data Services

LAN/WAN services

Connectivity... Integration... Flexibility...

At Penn Telecom, these aren't just buzz words - these are unique challenges that each client presents for a solution - a Penn Telecom solution.

You may need a LAN or a WAN. You may need both. You may need dedicated, high-speed connections. You may need all three. You may need special features to accommodate different functions in your business. That's ok.

We like challenges- in fact, we thrive on challenges. And our clients thrive on our solutions. That's because Penn Telecom takes the time to understand your organization's operations and structure. We study your requirements. We anticipate how you'll grow. We're not afraid to talk about budgets. Then, and only then, we'll recommend a solution that's just right for you.



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Business Systems

Carrier Hotels

LAN/WAN Services

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LAN and WAN Services

Today, the traditional boundaries for LANs and WANs have blurred as technology has changed. A Local Area Network (LAN) most often refers to a network created to transmit data over a short distance (within a room, a building, or group of adjacent buildings). A Wide Area Network (WAN) is similar in function, but works on a larger scale.

Penn Telecom networking specialists can help you with everything from planning to installation and support for:

LAN

- A variety of platforms including Microsoft Windows NT and AppleTalk
- Shared and Switched 10/100/1000 Base-T Ethernet Networking, which supports data transfer rates of 10 Mbps (Megabits per second), 100 Mbps, and 1000 Mbps
- IP/IPX/AppleTalk protocols and servers for connectionless communications
- ATM (Asynchronous Transfer Mode) to assure that no single type of data can clog the network
- Server platforms including Novell, Microsoft NT, AppleTalk, and Unix
- Networking Hardware including products and related support for Cisco, 3Com, and Allied Telesyn
- We can also help you run cable, from CAT-3 to Fiber Optics, throughout your building.

WAN

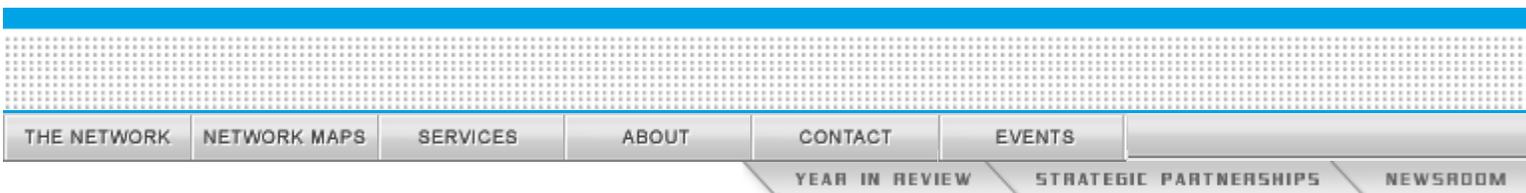
- DSL, a technology that transforms a standard telephone line into a high-speed, high-capacity data connection using a special modem.
- Integrated Services Digital Network (ISDN) service provides access to a digital network that is both fast and loaded with features.
- Dedicated Circuit options such as Frame Relay, a virtual "network" for email, web, and FTP access.
- Point to Point T1 and T3, dedicated connections supporting data rates of 1.544Mbits per second and 43 Mbps respectively.
- ATM (Asynchronous Transfer Mode) to assure that no single type of data clogs the network.
- Ethernet, a LAN (Local Area Network) protocol which supports data transfer rates of 10 Mbps.
- Networking Software including Novell, Microsoft NT, and Unix.
- Networking Hardware including products from Cisco and 3Com.
- Firewall Applications including virtual private networking over public/private WAN connections, secure Intranet web sites, password protected networks, and authorized access for remote users.

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PPL TELCOM

PPL Telcom is an unregulated subsidiary of PPL Corporation, providing broadband connections to telecommunications companies, Internet service providers and large businesses and institutions-such as hospitals, schools and government agencies- that need high-speed data connections among multiple locations.

THE NETWORK

PPL Telcom's fiber-optic network is strategically situated in the mid-Atlantic region, servicing 15 markets in six states and the District of Columbia. The network consists of over 2,500 route miles of fiber utilizing a DWDM OC-192 system. PPL Telcom's network provides service to customers throughout the northeast corridor between New York and Washington D.C. Locations in the network corridor include Allentown, Bethlehem, Baltimore, Harrisburg, Lancaster, New York, Newark, Philadelphia, Pittsburgh, Reading, Washington D.C., Scranton, Wilkes-Barre, Williamsport and York.

SERVICES

PPL Telcom provides the latest in broadband solutions including:

- :: [Private Line Services](#)
- :: [Optical Wavelength](#)
- :: [Ethernet](#)
- :: [Business Internet Access](#)
- :: [Colocation](#)

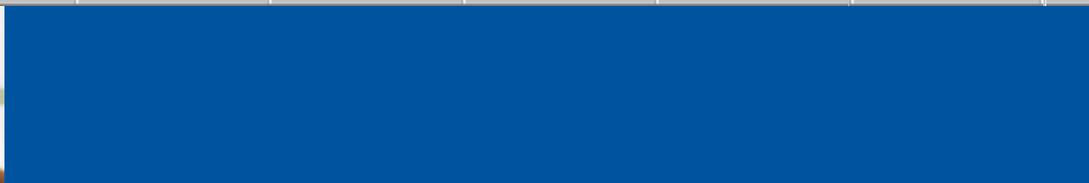
PPL Telcom's comprehensive infrastructure and network allows us to provide additional, state-of-the-art services:

- :: [Wireless Infrastructure](#)
- :: [High-Speed Internet service-powered by Broadband over Power Lines \(BPL\)](#)



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PPLTELCOM :: SERVICES

SERVICES

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PPL Telcom offers the latest in broadband solutions, working with leading edge companies to provide a unified customer experience. We offer the latest technology to Enterprise and Carrier customers throughout the New York to Washington, D.C. corridor. From SONET to Wireless Infrastructure, PPL Telcom offers the reliability and service customers have come to expect from their telecommunications provider.

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WIRELESS INFRASTRUCTURE

BPL

PRIVATE LINE SERVICES

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When it comes to transporting mission-critical voice or data traffic, nothing surpasses PPL Telcom's SONET services for network reliability and scalability. Point-to-point, point to multipoint and dedicated rings are available on PPL Telcom's rock solid network.

FEATURES

- Choice of bandwidth levels.
- Available for both metro or regional applications.
- Protected service standard.
- Card protection available.
- Bandwidth aggregation.
- Point-to-point, point to multipoint and dedicated ring configurations available.

BENEFITS

- Directly connect to and between markets.
- Around-the-clock security, monitoring and support.
- Rock solid, route diverse and electronically protected network.
- Greater than 99.999% reliability.

NETWORK

- Matched node SONET architecture.
- All routes rings; no linear routes.
- Self-healing network.
- Less than 50 ms failover in the event of a fiber cut.
- Diverse building entrances available.

BANDWIDTH SPEEDS

DS1 – OC-192 available both in the metropolitan and regional networks.

BANDWIDTH AGGREGATION

You can fan multiple circuits from a single higher speed hub either regionally or across our metropolitan optical network. PPL Telcom allows you to multiplex numerous circuits together in a single high-speed interconnection, enabling you to create more complex point-to-point configurations.

CLICK THE ICON BELOW TO DOWNLOAD THE PDF VERSION.



THE NETWORK

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WAVELENGTHS

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PPL Telcom's Optical Wavelength Service is a point-to-point, unprotected, bi-directional circuit which provides a cost-effective and flexible alternative to dark fiber and high bandwidth traditional capacity services. With limited capital required and no expense associated with owning and operating an optical network infrastructure, our long-haul and metro optical waves offer solutions for businesses to quickly design their nationwide networks or supplement an existing network. By shifting the technology burden to us, you can avoid frequent and continuous upgrades to optical equipment and concentrate efforts on growing your core business.

FEATURES

- Choice of bandwidth levels.
- Overhead bytes are transmitted transparently — seamlessly and unchanged.
- Point-to-point, bi-directional, concatenated signal.
- Multi-vendor interoperability.
- Several protection options.
- Flexible contract terms.
- Available for metro and regional applications.

BENEFITS

- Complete SONET rings.
- Transmit ATM, IP and Ethernet over a Clear Channel.
- Lease optical waves immediately instead of building in expensive dark fiber.
- Add route diversity eliminating down time.
- Control your own protection.

BANDWIDTH SPEEDS

- Wavelengths are available at 2.5G and 10G speeds.

DWDM

Optical wave services utilize dense wavelength division multiplexing technology and multiplex optical signals at unique wavelengths, or "waves," then transmit the composite signal over a single fiber. At the receiver, the composite signal is de-multiplexed and each unique optical wave signal is recovered.

PROTECTION OPTIONS

- Single Wave — Cost effective bandwidth that uses a single optical wave to provide unprotected point-to-point connectivity.
- Equipment Protect — A solution that uses two optical waves to provide equipment redundancy and protection.
- Route Protect — A solution that uses two diverse optical waves to provide maximum protection with route diversity.

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ETHERNET

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With PPL Telcom's Gigabit Ethernet, you have the flexibility to increase and decrease bandwidth on demand and interface with existing LAN protocols. Transporting data at speeds from 10 Mbps up to 1 Gbps, you get a secure optical network with the ease of Ethernet and the benefits of SONET.

FEATURES

- Available for metro or regional applications.
- All-optical architecture.
- Scalable from 10 Mbps to 1 Gbps.
- Point-to-point, point-to-multi-point or multi-point to multi-point configurations.
- Transparency.
- Flexible contract terms.

BENEFITS

- Expand reach into new high-growth markets.
- Maximum flexibility and control of your business.
- Reduced costs through efficient data transport options.

METRO OR REGIONAL

Available within a metropolitan area or regionally across PPL Telcom's Optical+IP Network.

ETHERNET OVER OPTICAL ARCHITECTURE

PPL Telcom's all-optical network combines the cost-effectiveness of Ethernet and the flexibility of dense wave division multiplexing (DWDM) with the unparalleled diversity and redundancy of SONET through resilient packet ring architecture.

SCALABLE BANDWIDTH

Select bandwidth in increments ranging from 10 Mbps to a full 1 Gbps and rapidly increase bandwidth.

GUARANTEED END-TO-END QUALITY OF SERVICE (QOS)

Optimize network performance with industry-leading service level agreements (SLAs).

FLEXIBLE CONFIGURATIONS

PPL Telcom's Gigabit Ethernet offers the ability to create partially meshed networks within or between metropolitan locations, which reduces costs of legacy private line and frame relay networks.

TRANSPARENCY

Send packets transparently as if your locations were directly connected. Full support for jumbo frames, VLAN tagging and VLAN stacking.

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At PPL Telcom, our expertise in providing best-in-class network performance, reliability and scalability extends to our Business Internet Access services. These services are designed to meet the needs of carriers and mid- to large-businesses and institutions including educational facilities, hospitals, Web design and e-commerce shops, application service providers, Internet service providers and content providers. Business Internet Access services provide Internet connectivity at speeds ranging from 1.5 Mb to 1 Gb. Our professionally managed, fully redundant network will allow you to work more efficiently and effectively.

FEATURES

- Extensive geographical network to connect with your location
- Highly scalable network with flexible bandwidth options that expand as your business grows
- Seamless connectivity with strategic and diversely located Tier 1 partners ensuring a continuous Internet connection
- Mail backup relay "store and forward" services ensuring e-mail is not lost should servers go down
- IP address allocation to meet existing and growing infrastructure needs
- Custom network builds to your locations
- One-stop shopping providing a cost savings to you
- Aggressive service level agreements
- Flexibility around interface options for connectivity
- Multiple billing options - Flat, Tiered (fractional) and Burstable

BENEFITS

- Expands your reach into new high-growth markets
- Gives you maximum flexibility and control of your Internet needs
- Reduces your costs through efficient network architecture
- Experienced professional IP staff
- Toll-free access to our dedicated Network Operations Center for live technical support, 24 hours a day, seven days a week
- A detailed trouble ticket management system that tracks each phase of our trouble-shooting process

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CLICK THE ICON BELOW TO DOWNLOAD PPL TELCOM'S ACCEPTABLE USE POLICY.



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COLOCATION

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Now you can quickly grow your business without the major cost of constructing, equipping and maintaining your own site. You get a secure, controlled infrastructure for your communications equipment, a solid front-locking cabinet, and a host of bandwidth and connectivity options.

PPL Telcom's Colocation service is offered in PPL Telcom's Metropolitan Area Network Points-of-Presence, and is only available to customers who purchase PPL Telcom's bandwidth services.

PRE-CONDITIONED SPACE

Receive a standard, front-locking cabinet with either 19" or 23" rails, or case space. Each cabinet is wired to a common meet-me area where you can connect to PPL Telcom bandwidth services case space.

SECURITY

Multiple levels of security and a top-quality surveillance system ensure security by only granting access to people with a PPL Telcom-issued access code or card.

POWER AND REDUNDANCY

Both AC and DC power are available for each cabinet. DC power is backed up with battery systems linked to an automatic-start emergency diesel generator system.

ENVIRONMENTAL CONTROLS

All PPL Telcom sites adhere to strict environment standards. Sites are monitored 24 hours a day, seven days a week.

CONNECTIVITY OPTIONS

Colocation customers can connect to our metropolitan and/or regional network for Private Line, Optical Wavelength and Gigabit Ethernet services. Sites are carrier neutral.

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PPL Telcom provides a vast portfolio of wireless site locations in 29 counties of Pennsylvania. Combining substantial existing infrastructure with the ability to develop new site locations, PPL Telcom offers excellent opportunities for your wireless site location needs.

FEATURES

- Over 40,000 "zoning friendly" electric utility structures.
- Over 400 substations provide opportunities for new tower sites.
- Broad experience in developing wireless sites.
- Win-win opportunities for both wireless carriers and municipalities.
- Existing "antenna-ready" sites offer collocation opportunities.
- Site structures and locations for both coverage and capacity.

BENEFITS FOR WIRELESS CARRIERS AND COMMUNITIES

- Easier, quicker and less costly site zoning.
- Rapid site selection, design and build time.
- Attractive monthly rates.
- Competitive site engineering and construction pricing.
- License agreements currently in place with major PCS/cellular carriers.
- Single point of contact covers large Pennsylvania territory and multiple sites.
- Use of existing "community-friendly" structures reduces need for new tower sites.
- Use of existing structures minimizes zoning and environmental concerns.
- Antennas blend visually with existing utility structures; aesthetics maintained.
- Siting solutions enable improved wireless communication services for communities.

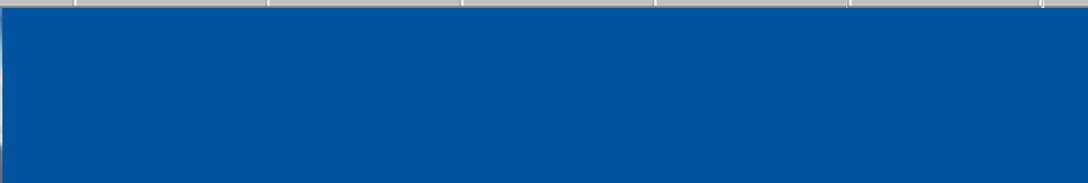
PPL TELCOM SERVICES

- Site selection.
- Site acquisition.
- Architectural and engineering design.
- Construction.
- Site maintenance.

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BPL

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PPL Telcom's High-Speed Internet Service Powered by BPL

PPL Telcom is leading the way in Broadband over Power Lines (BPL) technology, testing and working with manufacturers to develop new ways of delivering high-speed data. These exciting innovations can provide residential customers with two-way, high-speed Internet service over the current network of power lines they use every day.

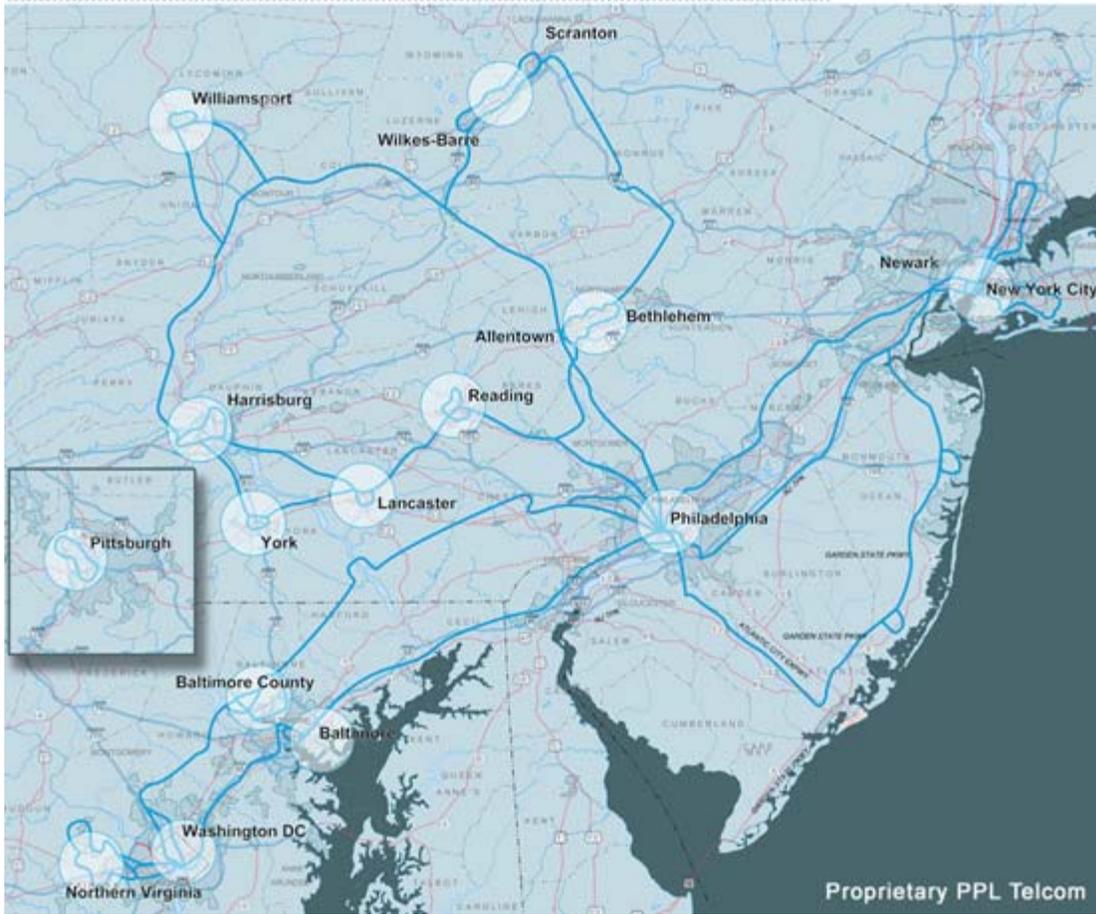
PPL Telcom is currently conducting market trials in select Lehigh Valley communities, providing high-speed service to residents eager to test this exciting new technology.

You can reach [PPL Broadband's](#) web site [here](#).

To find out more about PPL Broadband, please call 1-800-291-7971.

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PPL TELCOM FIBER OPTIC NETWORK





Solutions



Broadband Products and Services Brochures

- [Private Line Services](#)
- [Optical Wave Services](#)
- [Ethernet Services](#)
- [IP Services](#)
- [NOC Services](#)
- [The VPF™](#)

Wireless Product Information

- [Click Here](#) to access the wireless products page
- [Click Here](#) for the attachment services brochure

Taking the challenge...making it happen™

Private Line Services

Progress Telecom's metro and long-haul SONET transport service offers scalable connectivity solutions that let you reach customers with the local-access ease and reliability of a private line. As a leading-edge broadband services provider, we offer extensive coverage throughout the Eastern United States.



find out more at
www.progresstelecom.com

Services:

Metro

Progress Telecom employs a number of regional metro rings that have fully redundant broadband capacity. Dedicated private lines connect our on-net locations in key metropolitan areas using Dense Wave Division Multiplexing (DWDM) and SONET-based technology.

Long-Haul

Next-generation transport architecture forms the foundation for a remarkably reliable network backbone, and latest-generation DWDM equipment ensures efficient, high capacity bandwidth throughout our network.

International Traffic

Our extensive network presence and access to multiple international gateways have positioned Progress Telecom firmly among the leaders in the U.S. distribution of international telecommunications traffic.

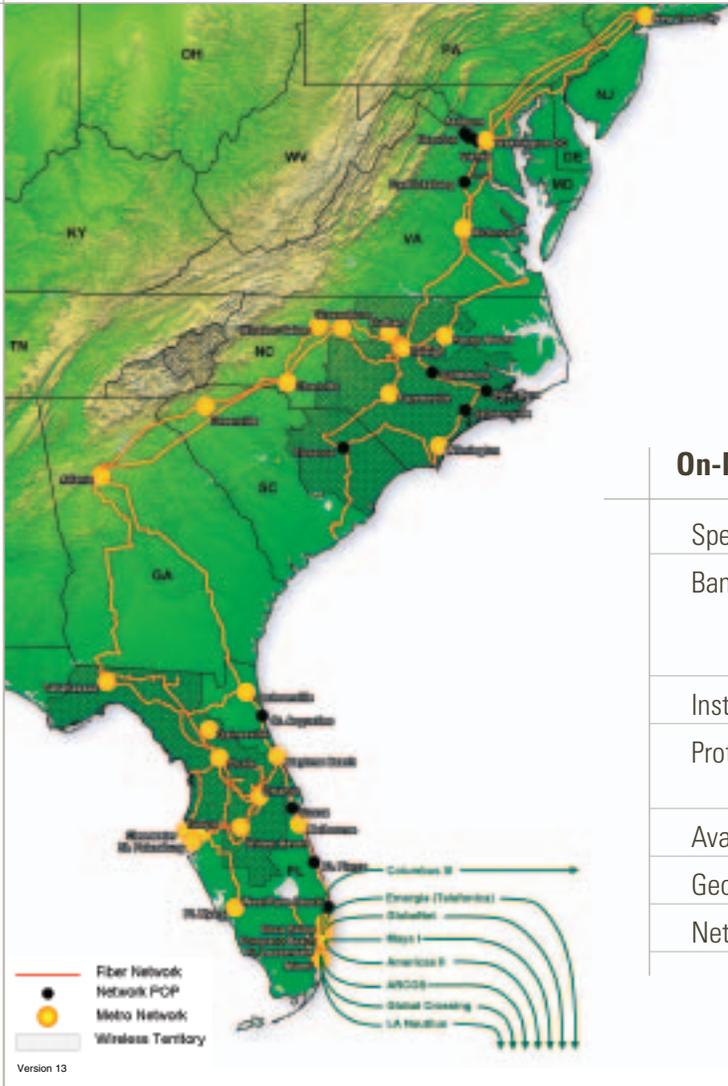
Features:

- > E-1, DS-1, DS-3, OC-3 through OC-192, STM-1 through STM-64
- > *FlexBand*™: Volume-based solutions for private line connectivity
- > Single point of contact for metro, long-haul and international
- > SONET/SDH transport solutions
- > Fully-redundant, geographically-diverse SONET network topology
- > 10 day on-net provisioning
- > 24/7/365 network monitoring
- > Performance monitoring and guarantees for network availability

With Progress Telecom as your transport provider, you can reach regional and metro customers using local access with true diversity through our robust, reliable network.



Progress Telecom Provides Service Throughout The Eastern United States



On-Net Service Specifications

Specifications	Metro/Long-Haul Access
Bandwidth/Capacity	DS-1, E-1, DS-3, OC-3 to OC-192, STM-1 to STM-64
Installation Intervals	10 days On-Net
Protection	1 + 1 Protected Diverse Ring Architecture
Availability	99.997%
Geographic Availability	Eastern United States
Network Management	24/7/365

To find out more information about these products and services, contact Progress Telecom today! Visit www.progresstelecom.com or call 727-471-5300.



Optical Wavelength Services

Taking the challenge...making it happen™

Optical Wavelength Services

Progress Telecom's optical wavelength service utilizes Dense Wave Division Multiplexing (DWDM) technology to provide high bandwidth solutions without the capital and expense associated with owning and operating repeaters, physical fiber and the other components of an optical network infrastructure. These protocol-independent wavelengths can support IP, SONET and ATM, while eliminating unnecessary overhead in your network.

Benefits:

Fast Market Access

Optical wavelengths offer an immediate and cost effective way to gain market access, and can provide a viable alternative when dark fiber is not available.

Lower Capital Expenditures

Without high demands on your capital, you can focus future investments on areas within your core business.

Cost-Effectiveness

Our optical wavelengths provide you with a more competitive cost structure than dark fiber, network electronics, and other optical network infrastructures.

Applications:

For CLECs, ISPs, International Carriers or Domestic Carriers, optical wavelengths provide a low-cost, high-speed, point-to-point private line solution. Progress Telecom's service gives you a decided edge if you're seeking to:

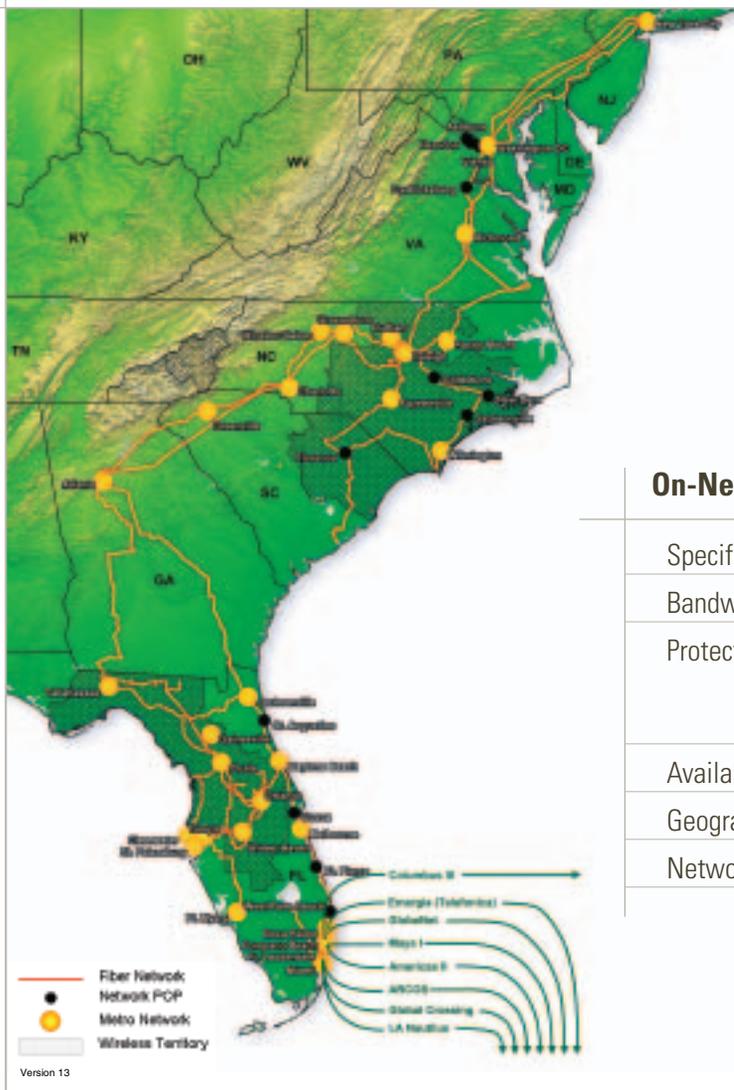
- > Gain access in markets where the demand for capacity does not justify an investment in dark fiber
- > Add route diversity to your existing network
- > Employ an interim bandwidth solution while network fiber builds are constructed and completed
- > Complete portions of your existing SONET ring

find out more at
www.progresstelecom.com



Optical Wavelength Services

Progress Telecom Provides Service Throughout The Eastern United States



On-Net Service Specifications

Specifications	Metro/Long-Haul Wavelengths
Bandwidth/Capacity	2.5 Gbps and 10 Gbps
Protection	Unprotected – Standard Offering Diverse Route Protection – Available Upon Request
Availability	99.9%
Geographic Availability	Eastern United States
Network Management	24/7/365

To find out more information about these products and services, contact Progress Telecom today! Visit www.progresstelecom.com or call 727-471-5300.



IP Services

Taking the challenge...making it happen™

IP Services

Progress Telecom provides secure, scalable IP solutions with the capacity to meet your changing needs. With a dense regional presence and regional peering relationships that keep local traffic local, Progress Telecom delivers a cost-effective, highly reliable service.

Benefits:

As an application to IP Services, Dedicated Internet Access provides the following advantages:

- > Constant, reliable connection to the Internet
- > Utilizes Progress Telecom's OC-192 IP backbone
- > Customizable port speeds
- > Burstable capability
- > Multiple access options

Features:

- > Scalable connectivity and access options
- > Fully redundant, geographically diverse network topology
- > Burstable capability for increased flexibility
- > Aggressive Service Level Agreements
- > 24/7/365 network monitoring

find out more at
www.progresstelecom.com

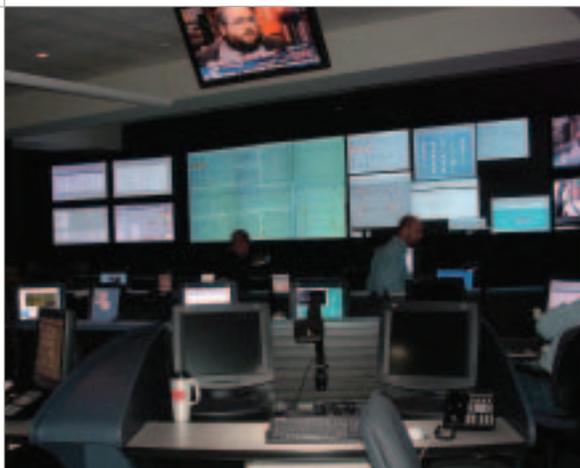


NOC Services

NOC Services

Progress Telecom's Network Operations Center (NOC) Service provides the ability to monitor IP, voice and broadband networks. Our state-of-the-art, 4000+ square-foot facility is designed and equipped to ensure monitoring that you can depend on for reliability, efficiency, flexibility and cost-effectiveness.

Network Operations Center



Taking the challenge...making it happen™

Services:

Disaster Recovery Operations

During an unexpected critical event, this standby service can be called upon to cover your network and ensure continued reliable service.

Back-Up Services

Continuous communication with your NOC and system monitoring ensure enhanced response time even if the primary NOC experiences an outage.

Shift-NOC Services

Network monitoring and coordination responsibilities after business hours maximize efficient use of your resources.

Full-Time NOC Services

Our 24/7/365 monitoring of your network is a practical alternative to the high cost of developing a fully equipped and redundant monitoring facility.

All NOC Services include:

- > Alarm monitoring and system surveillance
- > Tracking
- > Dispatch
- > Security and environmental monitoring
- > Escalation services

Features:

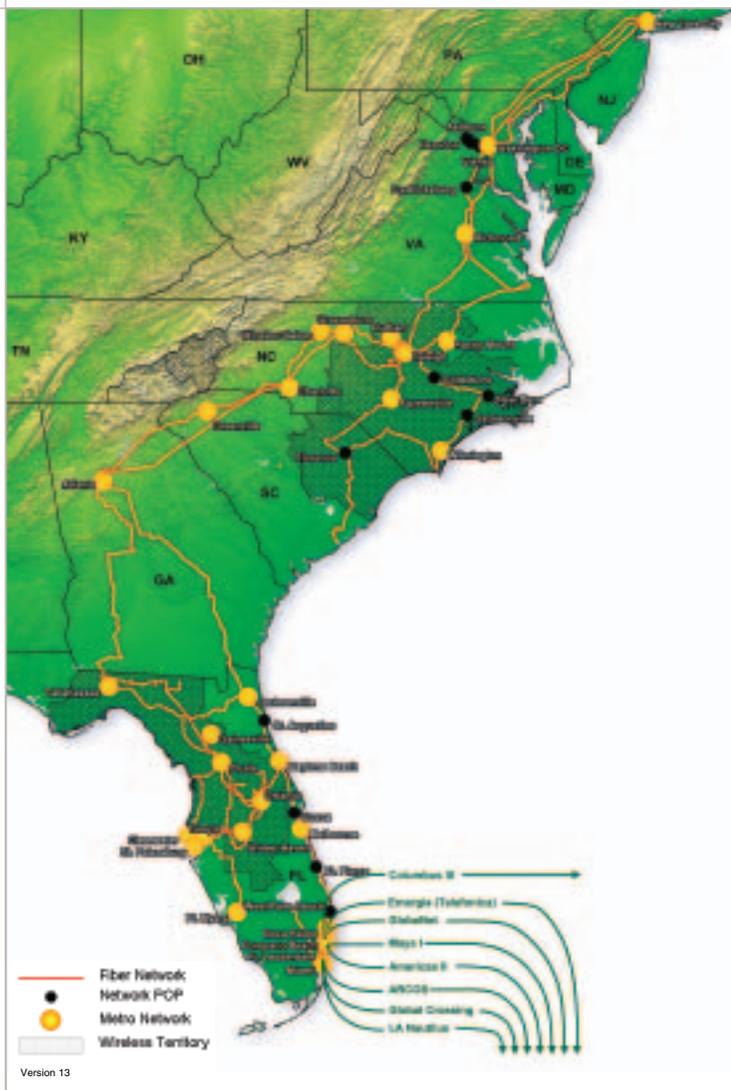
- > Support from highly trained, technically competent personnel
- > 24/7/365 network coverage
- > Access to state-of-the-art facilities
- > Minimal investment to monitor and maintain network

find out more at
www.progresstelecom.com



NOC Services

Progress Telecom Provides Service Throughout The Eastern United States



Technology, Experience, & Reliability

Progress Telecom’s state-of-the-art, hurricane-hardened NOC facility features 20 console positions, 15 plasma screens and a 40’ video wall. A unique combination of automated software packages enhances our ability to monitor a vast array of telecom platforms, and all network management systems are tied together with an integrated Fault Management System capable of correlating troubles across multiple vendors simultaneously. Using an advanced trouble ticketing system, the NOC is able to track all trouble information for customers, allowing automated escalations and enhanced customer communications and coordination.

Exceptionally well qualified through industry experience, education and technical training, our NOC personnel provide customer-focused monitoring and maintenance while operating Progress Telecom’s highly reliable DWDM and SONET networks.

For added security, our Disaster Recovery NOC located in Method, N.C. provides geographic and operational redundancy so vital to disaster recovery operations.