

Managed Private Optical Network

With applications like high-speed trading, medical imaging, content delivery, synchronous replication and cloud solutions, the demand for bandwidth continues to increase—exponentially. These applications place significant strain on available network resources, driving a need for increased scalability and performance.

Built to meet this increased demand, our Managed Private Optical Network (MPON) is a flexible, dedicated solution capable of supporting multiple technologies, protocols and applications across a wide area. MPON provides a turnkey, dedicated, private network with custom designed Dark Fiber routes, DWDM equipment installation and around-the-clock monitoring, maintenance and troubleshooting by our Network Operations Center.

MPON is a great option for organizations looking for a Dark Fiber solution that does not require in-house technical and operational personnel to install, monitor and troubleshoot the network.

Key Benefits

Increased flexibility and scalability

A custom, Dark Fiber, dedicated network with all of the privacy, security and bandwidth required that is more cost effective than building it yourself.

Dedicated support and monitoring

Access to technical and operational teams without the need to staff DWDM expertise internally, reducing your technical risk and overhead.

Simplified network management

A single point of contact—as compared to working with multiple providers—increasing efficiency and peace of mind. Additionally, our software and equipment updates are performed on your schedule—minimizing network impact.

Key Network Features

- 30 years of experience applied to the design, installation, monitoring, maintenance and upgrade of advanced DWDM networks
- Multiple high availability options for fiber and equipment protection, giving you the uptime you need and a guaranteed SLA
- Enhanced security with private fiber and equipment, and optional FIPS-certified Layer 1 optical encryption adds extra protection for your data in flight
- Ability to engineer a design with the latest available equipment and software for higher density and peak performance
- Optimal fiber routes and equipment, with optional built-in upgrades to meet your future needs
- Monitoring and managing all DWDM nodes and fiber via an out of band management connection to our Network Operations Center
- 24/7 network surveillance and monitoring

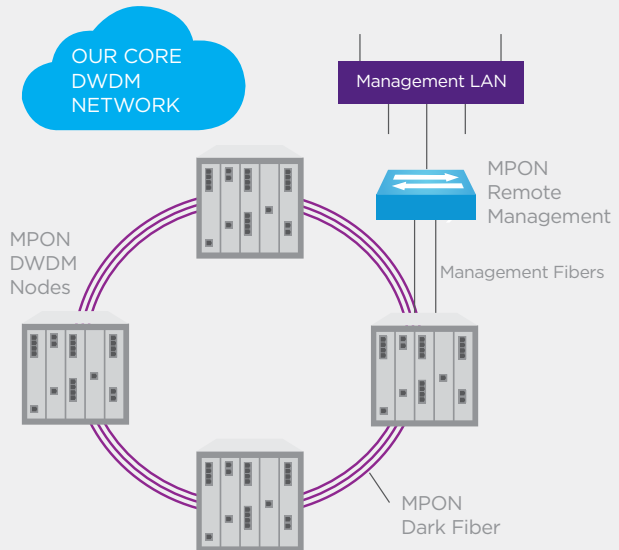
Key Security Features (optional)

- NIST-compliant AES-256 encryption
- Elliptic Curve Cryptography (ECC) algorithms and certificates
- Diffie-Hellman secured key negotiation (including Elliptic Curve)
- x.509 certificate support for authentication
- Easily integrates into enterprise Public Key Infrastructure (PKI) using x.509 certificate-based authentication
- Support for Certificate Revocation List (CRL)
- Hitless AES-256 key rotation every second
- TLS-secured and mutually authenticated interface for encryption monitoring and management by customer personnel
- SNMPv3 support

Technical Specifications

SPECIFICATION	DESCRIPTION
Key Solution Components	Dark Fiber between desired locations DWDM nodes with ROADM technology
(See Diagram)	Network management via out-of-band connection Designed, installed and managed by expert teams
Bandwidth Options & Hand-off Protocols (non-encrypted)	- 1Gbps(plus): 1 GigE, OTU1 - 10Gbps: 10 GigE, FC800/1200, OC-192/192c, OTU2 - 40Gbps: 40 GigE, OC-768, OTU3 - 100Gbps: 100 GigE, OTU4
Bandwidth Options & Hand-off Protocols (Encrypted)	- 10Gbps: 10 GigE, FC800, FC1200, OC-192/192c - 40Gbps: 40 GigE, OC-768, OTU3 - 100Gbps: 100 GigE, OTU4

Dedicated Fiber and Equipment



SPECIFICATION	DESCRIPTION
Optional Protection Options	- Backup circuit on diverse route - Optical Protection Switch for automatic failover to backup path - Guaranteed SLA options determined by the design you select
Bit Error Rate	1x10 ⁻⁹
Mean Time to Repair (MTTR)	4 hours
Availability	Configurations from 99.9% to 99.999% availability
Topology	Customized to meet your needs, ranging from a single point-to-point wave to multiple-ring networks

Why Crown Castle?

Our unique, nationwide portfolio

With approximately 90,000 route miles of fiber, we own and operate one of the largest and densest fiber networks in the country with a presence in 23 of the top 25 US markets.

Our proven track record

In our 30 years of experience owning and operating network assets we've seen it all and we're always ready to adapt to changing network trends.

Our deep expertise

We've worked with nearly every industry so we understand your unique opportunities and challenges and can tailor solutions to meet your goals.

Our solutions

We have your networking and security needs covered. Visit our [infrastructure solutions](#) page to learn more about our suite of solutions and how they can solve your toughest challenges.



Crown Castle owns, operates and leases more than 40,000 cell towers and approximately 90,000 route miles of fiber supporting small cells and fiber solutions across every major US market. This nationwide portfolio of communications infrastructure connects cities and communities to essential data, technology and wireless service—bringing information, ideas and innovations to the people and businesses that need them.