

# Wavelength

For today's businesses and service providers, bandwidth-intensive applications—including data center backup and recovery and cloud services—are driving a need for wavelengths. Our fully managed, private, point-to-point Wavelength solutions provide dedicated bandwidth to guarantee performance when you need it, delivered over a state-of-the-art Dense Wave Division Multiplexing (DWDM) network. It's a high-capacity solution that relieves bandwidth constraints, improves application performance, and scales with your business.

We also offer Managed Private Optical Networks (MPON) that are flexible, custom-designed solutions capable of supporting multiple technologies, protocols, and applications across a wide area. With MPON you'll get a turnkey, dedicated private networking solution that's backed by our nationwide footprint, the latest technologies, and our experienced support staff.

## Key Benefits

### Security

Layer 1 optical encryption Wavelength solutions are FIPS-certified to provide the highest level of in-flight data security. MPON solutions provide an additional layer of security with private fiber and private DWDM equipment.

### Diversity

When designing diverse routes, we provide protected and unprotected options and leverage unique utility rights-of-way to improve network reliability and survivability.

### Easy-to-deploy

Similar features to Dark Fiber but with the ease of a managed service.

### Fully managed

Proactive monitoring ensures high availability and reduces network management requirements and resources. And you get the unmatched reliability and peace of mind of our around-the-clock Network Operations Center, so you can spend less time managing your network.

More than  
**25 Years**  
of Expertise

**NYSE**  
**S&P 500**

### Infrastructure Solutions

- › Dark Fiber
- › Ethernet
- › **Wavelength**
- › Private Networks
- › Managed SD-WAN
- › Internet Access
- › Colocation

### Flexibility

Supports multiple protocols with seamless support for IP, Ethernet, SONET, and SAN services and is standards based with DWDM equipment ensuring multi-vendor interoperability. Can be customized with ultra-low and low-latency configurations for real-time applications like video conferencing and financial services transactions.

## Features

- › Enables the extension of LAN infrastructures for WAN, MAN, or SAN connectivity
- › Flexible, transparent bandwidth that supports most major protocols
- › Protected and unprotected configurations available
- › MPON solutions provide all of the benefits of Dark Fiber without the cost
- › FIPS-certified Layer 1 optical encryption available
- › Dedicated bandwidth at full line rate
- › 24/7 network surveillance and monitoring

## Technical Specifications

SPECIFICATION	DESCRIPTION
Bandwidth	OTU 1-4 Fiber Channel, 1 GigE, 10 GigE, 40 GigE, 100 GigE, OC-x, 1 Gbps to 100 Gbps
Protocol Independent	Open interfaces support all major transport protocols: Ethernet, IP, SONET, Fiber Channel, SAN, SD/HD-Video
Optional Route Diversity	Implement service on multiple routes to further ensure the highest availability possible
Optional Optical Protection on Diverse Routes	Switch between active and back-up paths to limit the impact of network events
Availability	Available on both metro and long-haul networks
MPON	Fully managed, custom-designed fiber solution with private fiber and dedicated WDM equipment

PROTECTION SPECIFICATION	DESCRIPTION
Bit Error Rate	1x10 <sup>-9</sup>
Mean Time to Repair (MTTR)	4 hours
Availability	Available on both metro and long-haul networks

Note: Specific protection and performance metrics will be determined by your solution design and Service Level Agreement.



We can purchase a network anywhere, but another key layer is the relationship. [...] When the IT team calls the Network Operations Center, they are not passed off to someone else. [...] Over the past few years, Crown Castle's account management team has served our company as technology advisors.

**JIM FLORIAN**

VP for Infrastructure Services at Provident Bank



Crown Castle owns, operates and leases more than 40,000 cell towers and approximately 80,000 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.