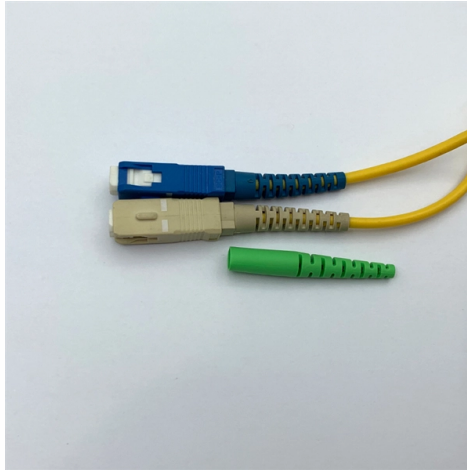


Enterprise-grade optical router remote monitoring sample



Overview

Keep your network performance and availability high with automated and remote network monitoring solutions.

Key Takeaways

Enterprise-grade optical routers can be remotely monitored using OTDR-based systems, integrated network controllers, and cloud-native EMS platforms for real-time diagnostics and automation. Cisco Routed Optical Networking Example

Cisco's Routed Optical Networking solution demonstrates a remote monitoring and management setup for a 75 km fiber span in a two-node DCI topology. The deployment uses Cisco 8201 routers, NCS 2006 terminal nodes, and NCS1K-MD-64 add/drop multiplexers with EDFA-35 bi-directional amplifiers. Remote monitoring is achieved through Crosswork Network Controller and Cisco Optical Network Controller, which provide centralized visibility, automated provisioning, and performance monitoring. Production deployments require careful sizing of CPU, memory, and storage for each VM to support thousands of PCEP sessions and headends .

EXFO RFTM – Remote Fiber Testing and Monitoring

EXFO RFTM is a cloud-native, OTDR-based remote monitoring solution for both P2P and PON fiber networks. It offers:

- Automated test configuration and execution with open APIs for integration into NOC/SOC workflows.

- Expert-level diagnostics using iOLM technology for fault analysis, deviations, and golden trace comparisons.
- Mobile app support for fast tests, pass-fail analysis, and fiber identification.
- Lifecycle coverage from deployment to maintenance, including 5G fronthaul and FTTx monitoring .

PacketLight PL-1000D/GD Fiber Monitoring

The PL-1000D/GD system provides non-intrusive, real-time monitoring of up to 16 fiber strands using:

- OTDR for precise fault location and GIS-based mapping.
- Optical Spectrum Analyzer (OSA) for monitoring OSNR and wavelength quality.
- LightWatch NMS for graphical visualization and alerts. This system reduces field visits, supports SLA compliance, and operates over dark fiber, lighted fiber, or third-party networks without impacting traffic .

Key Features of Enterprise Remote Monitoring

- Real-time diagnostics and fault detection.
- Automated provisioning and testing to reduce manual intervention.
- Integration with NMS/EMS via open APIs.
- Scalability for large networks with multiple nodes and services.
- Cloud-native or on-premise deployment depending on enterprise requirements.
- Support for both P2P and PON topologies, including DWDM networks. These examples illustrate how enterprise-grade optical routers can be monitored remotely, combining hardware instrumentation (OTDR/OSA), software controllers, and cloud-native platforms to ensure high availability, rapid fault detection, and efficient network management.

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This includes connections between the optical elements and connections between routers and optical add/drop end-points to support

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