How to configure an optical module router



Overview

Interface and Hardware Component Configuration Guide for Cisco Instructions for configuring controllers, managing optical modules, and monitoring coherent.

Key Takeaways

Proper configuration of optical modules involves safe installation, pre-configuration of interface attributes, and enabling the module via CLI or device interface.

Physical Installation

Safety Precautions: Always wear an ESD wrist strap and work on an ESD-safe mat to prevent electrostatic discharge damage. Handle modules by the sides or metal cage, avoiding contact with the optical end-face. Insertion: Align the module key with the port keyway and slide it straight in until it clicks.

For modules with latches or screws, engage them gently without over-tightening. Connector Preparation: Remove dust caps from both the module and fiber connector, then clean the fiber end-face with approved lint-free wipes and isopropyl alcohol. Removal: Disable the port or power off the device before removing the module to prevent electrical damage.

Pull the module straight out, avoiding twisting or rocking.

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Pre-

Configuration and Interface SetupTransmission Medium Pre-Configuration: On some devices, you can pre-configure the type of optical module on the interface before physical installation. This allows configuration personnel to set interface attributes in advance, which take effect once the correct module is installed. Interface Activation: Ensure the installed module matches the pre-configured type.

If mismatched, the device prioritizes the installed module type, and incorrect pre-configuration may damage the module. Software Configuration and MonitoringCLI Control: Many routers allow you to remotely disable and enable optical modules via CLI, simulating online insertion and removal (OIR). This is useful for troubleshooting without physically reseating the module.

Performance Monitoring: Check module status, including TX/RX power, laser bias current, and temperature. Set threshold values for alarms to monitor link health. Verification: After configuration, verify the interface is up and operational.

Use diagnostic commands to confirm link status and performance metrics.

Best Practices

Always verify module compatibility with the router and interface type (SFP, SFP+, QSFP, XFP) before installation. Avoid excessive force during insertion to maintain port integrity and prevent damage. Use proper fiber patch cords matching the module type (single-mode or multi-mode) and connector type (LC, SC, etc.),.

Document module serial numbers, port assignments, and configuration settings for future maintenance and troubleshooting. By following these steps, you can ensure safe installation, correct configuration, and reliable operation of optical modules in your router, minimizing downtime and protecting hardware investment.

Article Content

Interface and Hardware Component Configuration Guide for Cisco

Instructions for configuring controllers, managing optical modules, and monitoring coherent optical transceiver parameters.

Interface and Hardware Component Configuration Guide for Cisco

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