

Article Overview

Configuring and monitoring optical modules on a core switch involves verifying module compatibility, viewing diagnostic information, and ensuring proper port operation.

Viewing Optical Module Information

To ensure proper operation, you should first check the optical module status:

- o Huawei Switches: Use `display transceiver [interface interface-type interface-number | slot slot-id]` to view module details, including vendor, wavelength, and transmission distance. For diagnostics, `display transceiver diagnosis interface [interface-type interface-number]` provides real-time DDM (Digital Diagnostic Monitoring) data such as temperature, voltage, and Tx/Rx optical power .
- o Cisco Catalyst 9000 Series: Run `show idprom interface` to identify the SFP model and verify compatibility. Only Cisco-certified transceivers are recommended to avoid unpredictable behavior .
- o Extreme Switches: Use the CLI to view port and module status. DDM diagnostics display temperature, voltage, Tx/Rx power, and alarm thresholds. Non-certified modules may show as unsupported .

Ensuring Module Compatibility

- o Always use vendor-certified optical modules to prevent installation issues, data bus errors, or interface damage. Non-certified modules may have nonstandard sizes or defective connectors, causing service instability .
- o Check the vendor label and firmware version to confirm certification. For Huawei, certified modules display "HUAWEI" in the Vendor Name field, and the manufactured date should be after July 1, 2013 .
- o For Cisco, consult the Optics-to-Device Compatibility Matrix to ensure the SFP/SFP+ module is supported .

Configuring Ports for Optical Modules

- o Assign the correct interface type and speed (e.g., 1G, 10G SFP/SFP+) according to the switch specifications .
- o Enable auto-negotiation or configure full-duplex mode as required.
- o Apply VLAN, QoS, and security policies to the port to integrate it into the network topology .
- o Monitor link status and errors using commands like `show interface` or `display interface` to ensure the optical link is stable.

Monitoring and Troubleshooting

Configure optical modules for core switches

- o Use DDM readings to monitor temperature, voltage, and optical power. Values outside thresholds indicate potential module or fiber issues .
- o Check for low or high optical power, which may require cleaning connectors, replacing fiber, or adjusting attenuation .
- o For fiber link issues, verify cable type (single-mode vs multi-mode) and ensure the correct SFP type is installed .

Best Practices

- o Document all optical module types, serial numbers, and port assignments.
- o Regularly update switch firmware to support the latest certified modules.
- o Avoid mixing certified and non-certified modules on the same switch to prevent compatibility issues.
- o Use network management tools (CLI, SNMP, Web GUI) to automate monitoring and alerting for optical module health . By following these steps, you can ensure reliable operation of optical modules on core switches, maintain high-speed connectivity, and prevent service disruptions.

A switch that functions as part of a router and operates at the third layer of the OSI network standard model, the network layer. The

This chapter describes how to install and connect a Catalyst 3650 switch. It also includes planning and cabling

Optical modules work with optical fibers to transmit optical signals. An optical module works in full-duplex mode with a pair of optical

This article provides instructions on how to view the Optical Module Status on your switch through the Command Line

Important Notes About Using Optical Modules Certified for Huawei Switches Understanding Optical Modules What Is

What Is an Optical Module and Its FAQs (V200) Describes what an optical module is and FAQs, including the fundamentals,

Troubleshooting Directions Common problems with optical modules and interfaces include

Configure Optical Modules This chapter describes how to configure the Optical Amplifier Module and Protection Switching Module

Configure optical modules for core switches

This quick yet practical demonstration dives into the installation, configuration, and traffic

After configuring interface split or merge on an interface, save the configuration and restart the subcard or switch

You can add or remove SFP modules in your switch without powering off the system. Optical SFP Module Types and Connectors

Cisco Nexus 5000 Series switches provide up to sixteen physical Fibre Channel uplinks. The Fibre Channel interfaces are supported

Device installation and cable connection: Install the PEN central optical modules on the PEN central switches, and connect the PEN

S2700, S3700, S5700, S6700, S7700, and S9700 Series Switches Interoperation Configuration Guide (V200) S2750,

Multi-mode optical fiber is a type of optical fiber mostly used for communication over short distances, such as within a building or on a

This technical FAQ targets both pre-sales architecture validation and post-sales troubleshooting--covering optical

Web: <https://www.kremgroup.co.za>

