How to set the optical port band of a switch



Overview

Configuration Guide for Cisco NCS 1001, IOS XR Releases 7.5.x and This chapter describes how to configure the Optical Amplifier Module and Protection Switc.

Key Takeaways

Optical port bandwidth on a switch can be configured by adjusting the port speed, using interface split/merge functions, and ensuring compatible transceivers are installed.

Adjusting Port Speed

On many switches, such as Cisco Nexus series, optical ports operate at a default high speed (e.g., 40 Gbps). To change the bandwidth: Access the switch CLI or management interface. Use speed-group commands to set the desired speed.

For example, to reduce a 40-Gigabit port to 10 Gbps, the speed-group 10000 command is used. Install the appropriate transceiver for the new speed. For instance, a QSFP-to-SFP adapter and a supported SFP+ module are required when converting 40GE ports to 10GE.

Ensure all ports in the same speed group operate at the same speed to avoid configuration errors (e.g., "check speed-group config"),. To revert to the original speed, use the no speed-group 10000 command. Using Interface Split/MergeSome high-bandwidth optical interfaces can be split into multiple lower-bandwidth interfaces: Example: A 40GE port on a Huawei CX320 switch can be split into four 10GE interfaces.

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The split allows flexible connectivity to multiple remote 10GE interfaces using either 1-to-4 high-speed cables, active optical cables (AOC), or optical fiber with compatible modules. After configuring the split, save the configuration and restart the switch for changes to take effect. Original port settings will be lost if not saved.

If rolling back a configuration, the split must be manually reconfigured as rollback does not restore the original split settings.

Ensuring Compatibility

Transceiver type and wavelength must match between local and remote devices when splitting or merging interfaces. Port numbering: When using split interfaces, start with the first port connected to the first split fiber to ensure proper operation. Stacked switches: If a switch in a stack is replaced, the split configuration is automatically applied to the new member switch, retaining service configurations on converted ports.

Summary

To set the optical port bandwidth: Determine the desired speed and check transceiver compatibility. Use speed-group commands or interface split/merge functions depending on the switch model. Save the configuration and restart the switch if required.

Verify connectivity and port status to ensure proper operation. By following these steps, you can effectively configure optical port bandwidth to match network requirements and optimize traffic flow.

Article Content

Configuration Guide for Cisco NCS 1001, IOS XR Releases 7.5.x and

This chapter describes how to configure the Optical Amplifier Module and Protection Switching Module (PSM). When you plan to replace a configured optical module with a different type

Configure Port Settings to Optimize Traffic Flow on a Switch

These include adjusting the capabilities that are advertised on each port, the port speed, the duplex mode, and flow control. In addition, the ability to enable jumbo frames (which are 9 KB in size) for all

Configuring Attributes for an Optical Interface

The configuration personnel can pre-configure the transmission medium type on optical interfaces and configure functions on the interfaces. These functions take effect after the installation

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Optical Switch Specifications Guide: IL, Isolation, PDL, Switching Time ...

A switch rated at "≤1.0 dB typical" might actually have ports at 1.3 dB — within the typical range but outside the guaranteed spec. Specify "≤1.0 dB worst-case" to ensure all ports meet your power budget.

Guide to Basic Switch Configuration | Auvik

Switch configuration on your own can seem like a daunting task. Use this handy guide to get your network switch up and running with ease.

Optical Module Solutions for Huawei S5700/S5720 Series Switches

This article summarizes several solutions for using optical modules with switches and common problems encountered during usage, along with specific solutions.

How To View Port Status And Optical Transceiver Information On

Reading internal transceiver parameters allows users to monitor link status, real-time optical power, temperature and coding compatibility between modules and switches. We connect

Master the Basic Command Configurations of Huawei, H3C, Ruijie,

We understand the nuances of different networking switches and can guide you through the process, ensuring a smooth transition and operation. Our goal is to provide high-quality network

Where can I configure bandwidth management for switch ports?

Follow the steps outlined below to set up the bandwidth on individual ports. Step: 1. Go to Configure > Switch ports.

Fourstep Guide to Fix Optical Transceiver Issues for Stable Networks

This article presents a simple four-step troubleshooting method to help readers quickly locate and resolve optical module failures in switches, ensuring smooth network operation.

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How Passive Optical Networks Work – Wray Castle

If you''ve ever wondered how fiber broadband reaches millions of homes from a single central location, the answer lies in passive optical network technology. A passive optical network

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Optical networks

An optical transport network is a high-speed communication system that sends light signals over fiber-optic cables to move large amounts of data across long

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The complete guide to Garmin''s Instinct line. Current USD, GBP and EUR pricing for all six models, how the Instinct differs from the Fenix, and

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