

FC Interface Transceiver



Overview

Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x Each physical Fibre Channel interface in a switch may operate in one of several port modes.

Key Takeaways

An FC transceiver interface is a specialized optical module that connects Fibre Channel devices to the network, enabling high-speed, lossless data transmission in storage area networks.

A Fibre Channel transceiver is a critical component in storage networks, acting as the interface between devices such as FC switches, host bus adapters (HBAs), and storage arrays and the optical fiber cabling that carries data . These transceivers are protocol-specific, meaning they cannot be used in standard Ethernet ports, and are designed to support full-duplex, low-latency, and high-integrity data transfer essential for enterprise storage systems .

Supported Speeds and Form Factors

FC transceivers support a wide range of speeds, from legacy 1Gbps and 2Gbps to modern standards including 8Gbps, 16Gbps, 32Gbps, 64Gbps, and 128Gbps, with emerging technologies pushing towards 256Gbps and 512Gbps . Common form factors include:

- SFP (Small Form-factor Pluggable)
- SFP+

- SFP28
- SFP56
- QSFP28 The choice of form factor depends on the required speed, network configuration, and device compatibility .

Configuration and Management

On devices like Cisco MDS switches, FC interfaces can be configured to optimize performance and reliability. Features such as Forward Error Correction (FEC) help correct transmission errors without retransmission, and buffer credits must be properly allocated to cover link distances and frame sizes . Logical link bundling via port channels can improve reliability across DWDM links, even with varying path lengths . In Linux systems, FC HBAs can be managed using commands to check driver modules, identify hardware, and obtain detailed transceiver information from directories like `/sys/class/fc_host/` or using tools like `systool` . Diagnostic commands can display product ID, serial number, supported speeds, and operational status of each transceiver .

Key Considerations

- **Compatibility:** Ensure the transceiver matches the FC protocol and port type on the switch or HBA.
- **Distance and Media Type:** Optical transceivers vary in supported distances and fiber types (single-mode or multi-mode).
- **Network Performance:** Proper configuration of buffer credits, FEC, and port channels is essential for maintaining low latency and high throughput .
- **Diagnostics:** Regular monitoring of transceiver health and performance helps prevent network disruptions . FC transceiver interfaces are therefore essential for reliable, high-speed storage networking, providing the physical and protocol-level connection required for modern SAN environments.

Article Content

Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x

Each physical Fibre Channel interface in a switch may operate in one of several port modes: E port, F port, FL port, TL

Cisco MDS 9000 Series Interfaces Configuration Guide, Release 9.x

This option is supported only on Fibre Channel (FC) interfaces configured in F-mode. It can be configured regardless of

Fibre Channel Transceivers: Speed, Reliability & SAN Solutions

It acts as the key interface between Fibre Channel-specific devices—such as FC switches, host bus adapters (HBAs),

16G/32G Fiber Channel SFP Transceivers

10Gtek® 16G SFP+ fibre channel transceivers are suitable for 16G fibre channel and 10G Ethernet applications. This fibre channel

Fiber Channel Transceiver Modules Datasheet | FS

This transceiver is compliant with SFF-8472 SFF-8431 SFF-8432 and FC-PH-8 standards. Digital diagnostics functions are available

Fiber Channel Transceiver | Optical Transceivers | Amphenol

Amphenol's 64G fiber channel transceivers deliver high-speed, reliable optical connectivity for enterprise storage

What is a Fibre Channel (FC) transceiver?

What is a Fibre Channel transceiver? A Fibre Channel transceiver is a specialized optical module used to enable high

Fibre Channel Transceivers Overview: Types, Features, and

Overview of Fibre Channel Transceivers Fibre Channel transceivers, also called FC optical modules, are specialized

Different types of transceivers (GBIC, SFP, SFP+, SFP28, QSFP,

GBIC (Gigabit Interface Converter) A gigabit interface converter (GBIC) is a transceiver that converts electric currents

Fibre Channel Connectivity

Fibre Channel standards define the links and protocols that form storage area networks (SANs). The Fibre Channel protocol runs on

Fibre Channel vs Ethernet Transceiver, What Are Their Differences?

For Fibre Channel infrastructures, FC transceivers are considered as one of the indispensable components, while Ethernet

What are Fiber Channel and Fiber Channel Transceiver?

The Fibre Channel Physical and Signaling Interface (FC-PH) was released in 1994 as the first version of the fiber

Cisco MDS 9000 Series Interfaces Configuration Guide, Release 8.x

The show interface transceiver and show interface fc slot/port transceiver commands display both values (ID and

IP Mini Media Converter with FC Connector – GAOTek

An IP Mini Media Converter with an FC connector is a compact device designed to convert IP-based Ethernet signals into optical

What is Optical Transceiver: A Beginner Guide (2024)

Optical Transceiver Applications Fiber Optic Transceiver is widely found in wired networking applications such as

Fiber Connector Types

The SC-LC fiber which separately terminates an SC interface and LC interface at both ends is also useful. LC to SC

Fibre Channel (FC) interface

The SFP transceiver in the HBA and the storage array's I/O module enables optical or electrical data transmission. The I/O module in

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An FCoE LEP is a virtual FC interface mapped onto the physical Ethernet interface. It transmits and receives FCoE frames on the

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