

RIVO MULTITRADE OPTICAL SYSTEMS

FC Interface Application



Overview

Fibre Channel is standardized in the of the International Committee for Information Technology Standards (), an (ANSI)-accredited standards committee. Fibre Channel started in 1988, with ANSI standard approval in 1994, to merge the benefits of multiple physical layer implementations including, and. Fibre Channel was designed as a to overcome limitations of the SCSI and HIPPI physic.

Key Takeaways

The FC (Fibre Channel) interface is primarily used to connect servers to storage devices in SANs, enabling high-speed, reliable, and lossless data transfer. Core Applications

Storage Area Networks (SANs): The FC interface is widely deployed in SANs to provide a dedicated, high-speed connection between servers and storage arrays, ensuring low-latency, in-order, and lossless delivery of block data . This is critical for enterprise environments where large volumes of data must be accessed and backed up efficiently . High-Speed Data Transfer: FC interfaces support data rates ranging from 1 Gbps to 128 Gbps, making them suitable for high-performance computing, database servers, and virtualized environments . They can transport protocols like SCSI (via FCP), NVMe, and FICON for IBM mainframes, allowing versatile storage access . Network Topologies: FC interfaces operate in various SAN topologies:

- Point-to-Point: Direct connection between a server and a storage device.
- Arbitrated Loop: Supports up to 126 devices in a loop configuration.

- **Switched Fabric:** Connects multiple servers and storage devices through FC switches, supporting thousands of nodes with unique FC addresses .
Configuration and Management

Port Identification: Each FC interface has a unique WWPN (World Wide Port Name) and WWNN (World Wide Node Name), which are used for routing and communication within the fabric . The FC port address is assigned dynamically by the switch during login (PLOGI), enabling monitoring and diagnostics .

Operational State and Failover: FC interfaces can be enabled or disabled, and in high-availability setups like MetroCluster, interfaces can fail over to partner nodes while maintaining connectivity . This ensures continuous access to storage even during node failures.

Protocol Support: FC interfaces can carry multiple upper-layer protocols, including FCP for SCSI commands, NVMe for flash storage, and FICON for mainframes, making them versatile for different storage technologies .

Advantages

- **High Bandwidth:** Supports multi-gigabit speeds for fast data transfer.
 - **Long Distance:** Optical cables allow connections up to 10 km, while copper supports shorter distances.
 - **Reliability:** Serial transmission avoids synchronization issues common in parallel buses.
 - **Scalability:** Switched fabrics allow thousands of devices to communicate efficiently .
- In summary, the FC interface is a critical component in enterprise storage networks, providing high-speed, reliable, and scalable connectivity between servers and storage devices, supporting multiple protocols, and enabling robust SAN architectures.

Article Content

Manage FC network interfaces

The Fibre Channel interface REST API allows you to create, delete, update, and discover FC interfaces, and obtain

Manage FC network interfaces

Fibre Channel (FC) interfaces are the logical endpoints for FC network connections to an SVM. An FC interface provides FC access

Fibre Channel

OverviewHistoryEtymologyCharacteristicsTopologiesLayersPortsMedia and modules

Fibre Channel is standardized in the T11 Technical Committee of the International Committee for Information Technology Standards (INCITS), an American National Standards Institute (ANSI)-accredited standards committee. Fibre Channel started in 1988, with ANSI standard approval in 1994, to merge the benefits of multiple physical layer implementations including SCSI, HIPPI and ESCON. Fibre Channel was designed as a serial interface to overcome limitations of the SCSI and HIPPI physic

Fibre Channel SDK

Fibre Channel Software Development Kit Key Features Software Drivers for Windows, Linux, VxWorks, and other Operating Systems

Fibre Channel

The Fibre Channel test products include full-function device driver software for the most popular operating systems, an application

Configuring Fibre Channel Interfaces

Fibre Channel over Ethernet (FCoE) encapsulation allows a physical Ethernet cable to simultaneously carry Fibre Channel and

Cisco Nexus 9000 Series NX-OS FC-NPV and FCoE-NPV

You can add or remove a physical Fibre Channel interface (or a range of interfaces) to an existing SAN port channel.

Inside a Modern Fibre Channel Architecture – Part 1

Ordered Sets are used by FC-2P sublevel to identify frame boundaries, transmit primitive function requests, and by

Fibre Channel Interfaces

Fibre Channel can be implemented in the form of a continuous arbitrated loop (FCAL) that can have hundreds of separate storage

Configuring a Physical Fibre Channel Interface

When you configure the switch as an FCoE-FC gateway, you must configure either 6 or 12 of the physical interfaces

Understanding Fibre Channel | Junos OS | Juniper Networks

Fibre Channel (FC) is a serial I/O interconnect network technology capable of supporting multiple protocols. It is used primarily for

Cisco APIC Layer 2 Networking Configuration Guide, Release 5.2 (x)

A SAN port channel is a logical interface that combines a set of FC interfaces connected to the same Fibre Channel node and

Fiber Connectors

An overview of common single-fiber connector types is provided, including ST, FC, SC, and the compact LC connectors. Additionally,

Fibre Channel Show Commands

This example shows how to display the interface port information in VSAN 2: switch# show fc-port-security database interface fc 2/1

Understanding Interfaces on an FCoE-FC Gateway

When a switch functions as an FCoE-FC gateway to connect FCoE devices on an Ethernet network to a Fibre Channel (FC) switch

Fibre Channel Layers

It provides a standard set of services, known as application protocols, to upper layer protocols such as SCSI (Small

Fibre Channel Functional Overview

While the SCSI Application Layer (SAL) and the SCSI Transport Protocol Layer (STPL) are inherently part of the SCSI specification,

Storage Networking 101: Understanding the Fibre Channel Protocol

Understanding the guts of the Fibre Channel (FC) protocol itself, including the naming format and addressing scheme,

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

