FC interface maximum speed



Overview

Cisco MDS 9000 Series Interfaces Configuration Guide, Release 9.xMDS 64 Gbps capable FC interfaces enforce strict compliance to the Fibre Channel link nego.

Key Takeaways

The maximum speed of a Fibre Channel (FC) interface is currently 128 Gbps, with earlier generations supporting 1, 2, 4, 8, 16, 32, and 64 Gbps.

Overview of FC Speeds

Fibre Channel is a high-speed data transfer protocol primarily used in storage area networks (SANs) to connect servers and storage devices. Over successive technology generations, FC has evolved to support higher data rates, currently ranging from 1 Gbps up to 128 Gbps. These speeds are often referred to as Gigabit Fibre Channel (GFC), with each generation doubling or increasing the previous maximum throughput.

Vendor and Hardware Considerations

The actual speed achievable on an FC interface depends on the hardware and SFP (Small Form-factor Pluggable) modules used. For example: Cisco MDS 9000 Series: 32-Gbps modules support 32, 16, and 8 Gbps; 16-Gbps modules support 16, 8, and 4 Gbps; 8-Gbps modules support 8, 4, and 2 Gbps. Juniper Networks: FC interfaces can be configured for 2, 4, or 8 Gbps, with auto-negotiation available to match the link speed.

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Practical Implications

Link negotiation: FC interfaces must complete link speed negotiation to ensure proper operation, especially at higher speeds like 32 Gbps or above. Topology impact: Maximum speed can also be influenced by the network topology (point-to-point, arbitrated loop, or switched fabric) and the quality of optical or copper cabling. Future developments: The industry is moving toward 128 Gbps FC, which uses advanced encoding and error correction to achieve higher throughput while maintaining lossless, in-order delivery.

In summary, while 128 Gbps is the current maximum standard, most deployed FC interfaces operate at 16, 32, or 64 Gbps depending on the hardware and SFP modules used. Proper configuration and compatible equipment are essential to achieve these speeds reliably.

Article Content

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

MDS 64 Gbps capable FC interfaces enforce strict compliance to the Fibre Channel link negotiation standards. This includes a requirement at 32 Gbps speed that Link Speed Negotiation

Fibre Channel Speedmap

Actual speed is increased slightly to accommodate headers We see this on switch backplanes, increasing speeds to accommodate internal encapsulations such as HiGig2 for Broadcom

speed (FC interface view)

The speed command sets the rate for an FC interface in non-auto negotiation mode. The undo speed command restores the default rate of an FC interface in non-auto negotiation mode.

Configuring Fibre Channel Interfaces

If you cannot reserve dedicated bandwidth on an interface, you might have exceeded the port group maximum bandwidth. Use the show port-resources command to determine what resources are

List of interface bit rates

This is a list of interface bit rates, a measure of information transfer rates, or digital bandwidth capacity, at which digital interfaces in a computer or network can communicate over various kinds of buses

128GFC: A Preview of the New Fibre Channel Speed

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It would be a system requirement to find out what kind of module is plugged in by reading registers through the I2C interface when a module is detected as present.

speed (Fibre Channel Interfaces) | Junos OS | Juniper Networks

Configure FC interface speed. auto-negotiation —Automatically negotiate interface speed to match the speed of the attached link (2 Gbps, 4 Gbps, 8 Gbps). 2g —2 Gbps link speed. 4g —4 Gbps link

Overview of Fibre Channel | Junos OS | Juniper Networks

Fibre Channel (FC) is a high-speed network technology that interconnects network elements and allows them to communicate with one another. The International Committee for Information Technology

What Is the Rate of an FC Interface of a CE Series Switch ...

What Is the Rate of an FC Interface of a CE Series Switch? Only the CE8860EI, CE8861EI, and CE6850U-HI support FC interfaces. For the CE8860EI and CE8861EI: When the 16G

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 interface speed but will only be applied during link negotiation at 32

Demartek Storage Networking Interface Comparison

Transfer Rate Transfer rate, sometimes known as transfer speed, is the maximum rate at which data can be transferred across the interface. This is not to be confused with the transfer rate of

What Is Fibre Channel? | Enterprise Storage Forum

Fibre Channel is a high-speed networking technology used to connect servers and storage devices. Learn more about Fibre Channel and how it works.

Inside a Modern Fibre Channel Architecture – Part 1

FC-0 the physical interface (FC-0) consists of transmission media, transmitters, and receivers and their interfaces physical media, associated drivers and receivers capable of operating

Understanding FCoE | Junos OS | Juniper Networks

Understanding FIP Parameters on an FCoE-FC Gateway Configuring FIP on an FCoE-FC Gateway Setting the Maximum Number of FIP Login Sessions per ENode Setting the Maximum

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Fibre Channel Connectivity

Fibre Channel continues to double the speeds of links and even quadruple the speed in some cases. Gen 6 Fibre Channel has quadrupled the speed of 32GFC with parallel links to support 128GFC.

The Ultimate Guide to FC Connector: Everything You

The FC connector is one of the most significant in fiber optic communications. The FC connector is one the oldest and perhaps the most

What Should You Know About Fibre Channel?

Before Fibre Channel appears, SCSI (small computer system interface) was used as the transmission interface between servers and clustered storage devices. But as the high speed

SCSI, Fibre Channel (FC), SATA, PATA, USB & FireWire – Maximum ...

SCSI, Fibre Channel (FC), SATA, PATA, USB & FireWire – Maximum Theoretical Bus Speeds Comparison. I put together this basic graph to show and compare all of the maximum theoretical bus

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