Which interface should be used for interconnecting FC switches

Overview

One or two blocks of six proxy N_Port (NP_Port) interfaces to connect to FC switch fabric ports (F_Ports). Each FC fabric is local to the gateway on which you configure it.

Key Takeaways

E_Ports and EX_Ports are the primary interfaces used to interconnect FC switches, forming inter-switch links (ISLs) or inter-fabric links (IFLs) in a SAN. E_Ports (Expansion Ports)E_Ports are specialized Fibre Channel switch ports used to connect one FC switch to another, creating an inter-switch link (ISL). These links allow multiple switches to form a single fabric, enabling devices connected to different switches to communicate seamlessly.

E_Ports participate in fabric services, including name server registration, zoning, and fabric topology propagation, ensuring that all switches in the fabric are aware of connected devices and paths. EX_Ports (Extended Ports)EX_Ports are similar to E_Ports but are used specifically in inter-fabric connections. They terminate at the switch and do not propagate fabric services or routing information from one fabric to another.

EX_Ports are typically used when connecting edge fabrics to a backbone fabric or when implementing metaSAN architectures with multiple independent fabrics. EX_Ports form inter-fabric links (IFLs), which allow controlled communication between fabrics without merging them, maintaining separate zoning and access controls.

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Inter-

Fabric Links (IFLs)An IFL is the logical link between an E_Port on one fabric and an EX_Port on another fabric.

IF

Ls are used to connect edge fabrics to backbone fabrics or to interconnect multiple SAN fabrics in a metaSAN configuration.

Multiple IF

Ls can be configured for redundancy and load balancing, ensuring high availability and fault tolerance.

Best Practices

Always use redundant E_Ports or EX_Ports to interconnect switches to avoid a single point of failure. Maintain separate fabrics for redundancy; do not combine fabrics unless using proper inter-fabric links. Follow switch vendor guidelines for port configuration, zoning, and fabric topology to ensure compatibility and optimal performance.

In summary, E_Ports are used for standard inter-switch connections within a single fabric, while EX_Ports are used for controlled inter-fabric connections. Configuring these ports correctly ensures a resilient, high-performance SAN with proper device communication and zoning.

Article Content

Understanding Interfaces on an FCoE-FC Gateway

One or two blocks of six proxy N_Port (NP_Port) interfaces to connect to FC switch fabric ports (F_Ports). Each FC fabric is local to the gateway on which you configure it.

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

Configuring Fabric Interconnects and Ports

Switch mode allows the fabric interconnect to connect directly to a storage device. Enabling Fibre Channel switch mode is useful in Pod models where there is no SAN (for example, a single Cisco

Understanding FCoE-FC Gateway Functions

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Each of the native FC interfaces on the gateway performs a fabric login (FLOGI) to the FC switch when each interface initializes. This establishes the link between each gateway FC interface and the FC

Cabling considerations for new FibreChannel links

A Fibre Channel (FC) storage area network (SAN) and Inter-Switch-Link (ISL) interfaces are an important part of modern data-center systems, including in hyperscale or enterprise ones.

Fibre Channel SAN configuration details

For Fibre Channel connections, the nodes must be connected to either SAN switches or directly connected to a host port. The system requires that a minimum of two Fibre Channel ports from each

Port assignments for MetroCluster FC switches

If you configured your switches using the port assignments for ONTAP 9, you can continue to use the older assignments. However, new configurations running ONTAP 9.1 or later

How to Configure a FC Switch for Storage Protocol ...

Learn how to use different modes, devices, and best practices to connect fibre channel switches to iSCSI, NFS, or SMB devices in a SAN.

Understanding Fibre Channel Terminology

Assigning Interfaces to a Fibre Channel Fabric Deleting a Fibre Channel Interface Troubleshooting Fibre Channel Interface Deletion Disabling VN2VF_Port FIP Snooping on an FCoE

Configuring Fibre Channel Interfaces

Cisco Nexus 5000 Series switches support up to sixteen physical Fibre Channel (FC) uplinks through the use of two, optional explansion modules. The first module contains eight FC

Fibre Channel over Ethernet (FCoE)

FCoE is technology that enables converged I/O, which encompasses data Ethernet traffic and Fibre Channel (FC) sharing the same Ethernet wire. There are several designs that can enable a hybrid of

Configuring Fabric Interconnects and Ports

Switch Mode Switch mode is the traditional Ethernet switching mode. The fabric interconnect runs STP to avoid loops, and broadcast and multicast packets are handled in the traditional way. Switch mode

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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 storage area networks (SANs). The committee

How do i set up a Fibre Channel HBA adapter as a network device?

A Fibre Channel HBA is a network interface (for a Fibre Channel network/fabric), as well as a host adapter. However, it''s not an Ethernet interface which seems to be your aim. Some few FC

What are Fibre Channel port types?

Learn about the various types of Fibre Channel ports on FC switches and routers and what each is used for in a Fibre Channel-based storage area network.

Overview of Fibre Channel | Junos OS | Juniper Networks

Proxy for FCoE devices when communicating with FC switches and acts as a proxy for FC switches when communicating with FCoE devices Up to 12 native FC interfaces per QFX3500 switch (each

4.3 Overview of Fibre Channel (FC) SAN Protocol

The FC architecture represents true channel and network integration and captures some of the benefits of both channel and network technology. FC protocol provides both the channel speed

Ethernet Switching vs. Fiber Channel Switching

Now that we discussed the difference between the TCP/IP stack and the FC levels, it is time to examine the difference between Ethernet and FC switching concept But first, let me ask you

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