What devices are connected to the FC interface

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

Fibre Channel interfaces can connect servers, storage devices, and other FC-capable devices within a SAN, using N_Ports and F_Ports through FC switches or gateways.FC-Compatible Devices

Fibre Channel (FC) interfaces are primarily used to connect servers, storage arrays, and other FC-capable devices in a Storage Area Network (SAN) environment . These devices act as either:

• Initiators: Typically servers that originate I/O commands to storage devices .

• Targets: Storage devices such as disk arrays, solid-state storage, or NVMe storage that receive I/O commands . FC interfaces can also connect to Fibre Channel over Ethernet (FCoE) devices via an FCoE-FC gateway, allowing Ethernet-based servers to access the FC SAN without native FC ports .
FC Port Types

The connection between devices and the FC network is facilitated by specific port types:

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• N_Port (Node Port): Found on the endpoint device, such as a server or storage array, allowing it to communicate with the FC fabric .

• F_Port (Fabric Port): Located on an FC switch, connecting directly to an N_Port in a point-to-point configuration .

• VF_Port (Virtual F_Port): Used by FCoE-FC gateways to present multiple virtual ports to FCoE devices .
Network Topologies

FC devices can be connected in different topologies:

• Point-to-Point: Direct connection between two devices using N_Ports .

• Switched Fabric: Devices connect through FC switches, allowing scalable and managed communication .

• Mixed Fabric: Combines switches and loop-attached devices, supporting both switched and loop topologies .
Additional Considerations
• FC interfaces can operate over optical fiber or copper cabling, supporting speeds from 1 Gbps up to 128 Gbps .

• Devices connected to FC interfaces may also use Fibre Channel Protocol (FCP) to transport SCSI commands or NVMe over FC for modern storage systems .

• When using FCoE-FC gateways, Ethernet-based servers can access the FC SAN, effectively converging Ethernet and FC networks . In summary, any server, storage device, or FC-capable endpoint with an N_Port can connect to an FC interface, either directly or through an FC switch or gateway, supporting high-speed, lossless data transfer within a SAN environment .

Article Content

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

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