



Product Overview

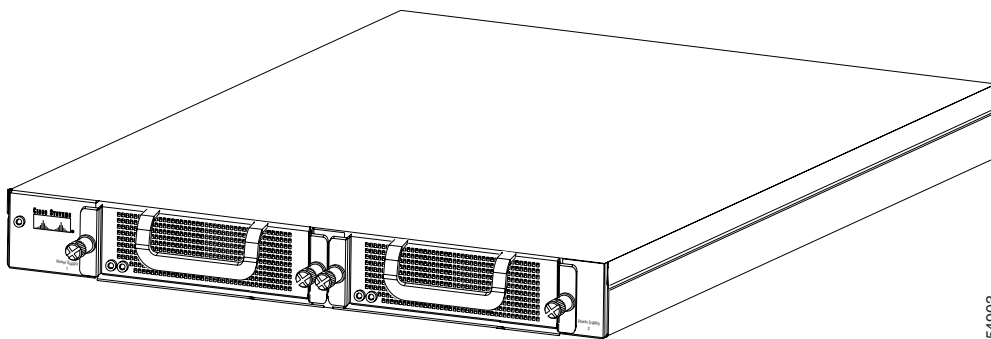
The Cisco SFS 7000P switch provides data center managers with a high-performance, low-latency interconnect.

- [Switch Description](#), page 1-1.
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Switch Description

The Cisco SFS 7000P switch includes the features described in the following sections. See [Figure 1-1](#) for an illustration of the switch.

Figure 1-1 *Cisco SFS 7000P Switch*



Connectors

The Cisco SFS 7000P switch uses the following connectors:

- Twenty-four 10-Gbps 4x copper InfiniBand ports
- One 10/100 Ethernet RJ-45 management-Ethernet port for out-of-band management
- One RJ-45 console port used to configure and monitor the Cisco SFS 7000P switch

Switch Components

The following sections describe the Cisco SFS 7000P switch components.

LEDs

The Cisco SFS 7000P switch features the following LEDs:

- Chassis LEDs—Show overall system status, power status, and fan status. LEDs and their use are described in the [“Chassis Status LEDs” section on page 4-1](#).
- InfiniBand Port LEDs—Show link status, diagnostics, and network traffic. LEDs and their use are described in the [“LEDs” section on page 4-1](#).

Power Supplies and Fan Units

See the [“Installing a Power Supply or Fan Unit” section on page 3-2](#) for more information.

Power Supply Bay

The chassis provides dual independent IEC connectors, left- and right-justified.

Power Supplies and Fan Trays

The power supplies and fan trays have the following features:

- Redundant and hot-swappable

The replacement of any one power supply or fan tray does not disrupt the operation of the device, and can be successfully completed without removing the device from a rack or disconnecting any cables.

- Auto-ranging 90 to 264VAC, 47 to 63Hz
- Redundant, hot-swappable cooling

System Features

This section describes the Cisco SFS 7000P features.

InfiniBand Connectivity

The Cisco SFS 7000P switch can be used in a variety of networking environments, including database tiers, application tiers, and World Wide Web tiers. The Cisco SFS 7000P switch provides 10 Gbps connectivity to servers.

InfiniBand-enabled servers are automatically recognized as they are connected.

Scalability

The embedded subnet manager running on the Cisco SFS 7000P switch can manage up to 1,152 hosts.

High Availability

High availability operates at the hardware, port, and fabric level.

Hardware

The Cisco SFS 7000P switch features hot-swappable redundant power and cooling.

Ports

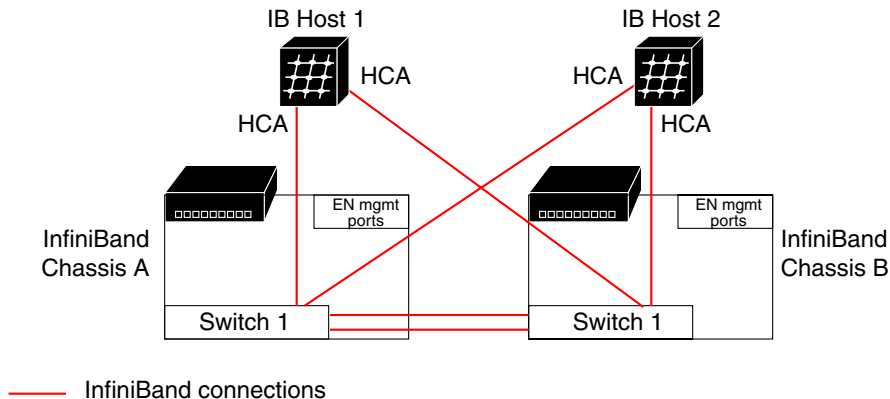
If any single InfiniBand port fails, none of the other ports will have interrupted service.

Fabric

For redundancy, InfiniBand host channel adapters can be dual-connected to a redundant pair of Cisco SFS 7000P switches.

In an InfiniBand fabric that includes more than one Cisco SFS 7000P switch, if the subnet manager on the Cisco SFS 7000P switch that is acting as the master fails, another subnet manager will take over within seconds. (See [Figure 1-2](#).)

Figure 1-2 Example of Redundant Cisco SFS 7000P InfiniBand Fabric



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Nonblocking Architecture

The Cisco SFS 7000P switch provides nonblocking switch element architecture with full bisectional bandwidth for the switch chassis.

Administrative Features

The following sections describe the Cisco SFS 7000P administrative features.

Real-Time Clock

A real-time clock maintains correct time regardless of power conditions or connectivity.

Latency

The Cisco SFS 7000P switch has port to port latency of less than 200ns.

Nonvolatile Memory

The memory supports the following items:

- Three stored system images (not including recovery image)
- One week of log files at normal verbosity and one day of log files at maximum verbosity

Vital Product Data Storage

Vital product data is stored in nonvolatile memory in the system and the power supply and is available electronically. The following vital product data is accessible by the maintenance processor and made available to the RS-232 and Ethernet ports:

- Power-on hours

- Manufacturing part number
- Serial number
- Final test date
- Card ID
- Failure code
- Failure date
- Operation status
- Failure log
- OEM part number

Diagnostics

The following tests are used to determine operational status:

- Power-on self-test (POST) is performed on all system components and is required during power-on to determine operational readiness.
- Test to check the redundant components' operational status periodically during normal operation, including the logic required to perform the transition from faulted or primary to redundant component. The detection of an abnormal status is reported.
- Concurrent port loopback tests are available, including the capability to wrap an external signal from input port to output port.

Refer to [Chapter 5, “Hardware Diagnostic Tests,”](#) for more detailed information.