Product Bulletin No. 3073

Cisco SFS 7008P InfiniBand Server Switch

The Cisco SFS 7008P InfiniBand Server Switch provides a new class of data center infrastructure that interconnects discreet server resources together into a high performance 10Gbps, low-latency fabric. It brings many of the mainframe “backplane” technologies to commodity servers, including Remote Direct Memory Access (RDMA) for transmitting large amount of data with very little overhead, as well as very low latency (<4 usec user-space latency). These technologies enable commodity servers to be combined into effective high-performance clusters and grids, creating the kind of collective performance required for enabling the trend towards commoditization.

PRODUCT OVERVIEW

In addition to high performance computing, InfiniBand also offers the performance, security and control required for utility computing. The SFS 7008P interconnects servers via a high-performance, unified fabric, and when combined with SFS 3000 Multifabric Server Switches, enables shared pools of I/O and storage resources that can be mapped together by VFrame Server Fabric Virtualization Software to deliver virtual “compute services”.

The Cisco SFS 7008P InfiniBand Server Switch is a director-class switch designed for mission-critical environments. It has full bi-sectional bandwidth (1.92 Tbps) across 96 20-Gbps full duplex (read and write), ports and embedded fabric management in a 6-rack-unit (6-RU) chassis. The Cisco SFS 7008P is a perfect building block for server fabrics from tens to thousands of nodes. With fully redundant, hot-swappable components, the Cisco SFS 7008P is an ideal component for building scalable and highly available clusters for high-performance computing, scientific, and enterprise applications.

The Cisco SFS 7008P offers the following customer benefits:

- 96 ports of nonblocking 10-Gbps (4X) InfiniBand server connectivity with full bi-sectional bandwidth (1.92 Tbps).
- Cisco Rapid Service Architecture allows service and replacement of all active electronics without removing cables
- Director-class high availability and stateful failover eliminates service disruptions
- Intelligent switch with embedded fabric management, capable of running clusters of thousands of nodes
- Comprehensive performance and fabric diagnostics tools in a fully managed switch

The SFS 7008P integrates with other Cisco SFS 7000 Series InfiniBand Server Switches and Cisco SFS 3000 Series Multifabric Server Switches for a wide range of IPC, storage, and WAN/LAN network connectivity options.

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Table 1. SFS 7008P Customer Features

Feature	Description
High Performance Server Fabric	96 ports of 20Gbps, full-duplex, ultra low latency server fabric interconnect
Non-Blocking Architecture	Full bisectional bandwidth for all 96 ports (1.92 Tbps) with 600ns cut through latency
Remote Direct Memory Access	Move data directly from one server's memory to another, bypassing the CPU(s) and kernel
High Availability	Fully redundant power, management, and cooling, with hot swappable field replaceable units (FRU)
Redundant Management	Dual redundant and synchronized fabric managers in a single chassis that allow recovery from system errors
Rapid Serviceability	Passive mid-plane chassis that does not require any cables to be removed to service active components
Rich System and Fabric Management	CLI, Web, and Java-based systems and server fabric management options

NEW FEATURES

New features for the SFS 7008P include the following:

- Support for Cisco's Pluggable Optical Modules (POM) that provide fibre InfiniBand connections up to 150m
- Advanced in-service and out-of-service diagnostic tests
- RoHS compliant

AVAILABILITY

The SFS 7008P is generally available now. New features for the SFS 7008P, including POM support, will begin shipping in December 2005.

ORDERING INFORMATION

Table 2. Ordering Information for the Cisco SFS 7000P

Part Number	Product Name and Description
SFS7008P	Cisco SFS 7008P InfiniBand Server Switch • 48-96 4X InfiniBand 10-Gbps or 20-Gbps full duplex (read and write) ports (field upgradeable) • 50% blocking or fully nonblocking design with a 1.92 terabits per second (Tbps) backplane and less than 600-ns port-to-port cut through latency • Excellent building block for enterprise grids with unified I/O and Cisco VFrame Server Fabric Virtualization software • Director-class high availability and stateful failover of all critical components • SFS Rapid Service Architecture that allows service and replacement of all active electronics without removing cables • Intelligent switch with embedded fabric management, capable of running clusters of thousands of nodes • 6-RU modular chassis, with 4-post rack mounting kit optional
SFS7008P=	Cisco SFS 7008P Switch Chassis (field-replaceable unit [FRU]) • Replacement chassis with no line cards
SFS-7008-K9=	Cisco SFS 7008P Switch Chassis (field-replaceable unit [FRU]) • Replacement chassis with no line cards

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Part Number	Product Name and Description
SFS-7008P-HA	Cisco SFS 7008P InfiniBand Server Switch High-Availability Package, includes: • Cisco SFS 7008P Switch Fabric Upgrade Kit (non-blocking fabric) • Cisco SFS 7008P Management Interface Module • Cisco SFS 7008P Power Supply • Cisco SFS 7008P Fan Tray
SFS7008P-MFMU	Cisco SFS 7008P Management I/O Upgrade Kit
SFS7008P-SFMU	Cisco SFS 7008P Switch Fabric Upgrade Kit
SFS7008P-PWRU	Cisco SFS 7008P Switch Power Supply Upgrade Kit
SFS7008P-FANU	Cisco SFS 7008P Fan Upgrade Kit
SFS7008P-SFM-K9=	Cisco SFS 7008P Switch Fabric Module, with management • Fits in any of the switch fabric module slots in the Cisco SFS 7008P
SFS-X7008P-04X12=	Cisco SFS 7008P InfiniBand 4X 12-Powered-Port Line Card • Line card with 12 powered ports of 10-Gbps 4X InfiniBand
SFS7008P-MFM-K9=	Cisco SFS 7008P Management Interface Module • Management card for the Cisco SFS 7008P chassis • Add an additional management card for redundant management
PWR-SFS7008P=	Cisco SFS 7008P Power Supply and Cooling Module • Replacement power supply for Cisco SFS 7008P chassis • Add an extra power supply to a Cisco SFS 7008P chassis for redundant power
SFS-7008P-CHID=	Cisco SFS 7008P Chassis ID Card (FRU) • Replacement chassis ID module for Cisco SFS 7008P chassis
SFS-7008P-SBLNK=	Cisco SFS 7008P SFM Blanking Panels • Set of blanking panels for Cisco SFS 7008P switch fabric module line cards • Suitable for temporarily removing Cisco SFS 7008P FRUs while the switch stays in operation
SFS-7008P-PBLNK=	Cisco SFS 7008P Power Supply Blanking Panels • Set of blanking panels for Cisco SFS 7008P power supplies • Suitable for temporarily removing Cisco SFS 7008P FRUs while the switch stays in operation
SFS-7008P-FBLNK=	Cisco SFS 7008P Fan Module Blanking Panels • Set of blanking panels for Cisco SFS 7008P fan modules • Suitable for temporarily removing Cisco SFS 7008P FRUs while the switch stays in operation
SFS-7008P-MBLNK=	Cisco SFS 7008P Management I/O Blanking Panels • Set of blanking panels for Cisco SFS 7008P management I/O line cards • Suitable for temporarily removing Cisco SFS 7008P FRUs while the switch stays in operation
SFS-7008P-RKIT=	Cisco SFS 7008P Rail Kit (FRU) (Option) • Optional rail kit specially designed for mounting Cisco SFS 7008P in a rack • Very solid and suitable for rack-based shipping
CAB-SFS7008P-SER=	Cisco SFS 7000 Series Serial Cable Kit • Replacement serial cable kit for Cisco SFS 7000 Series switches

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FOR MORE INFORMATION

For more information about the Cisco SFS 7000P, visit http://www.cisco.com/en/US/products/ps6418/index.html or contact your local account representative.

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