

## Cisco SFS 7000D, 7012D, and 7024D InfiniBand Server Switches

PB3291

The Cisco SFS 7000D, 7012D, AND 7024D InfiniBand Server Switches deliver next-generation InfiniBand performance and flexibility with autosensing InfiniBand 4X ports that support 20- or 10-Gbps per port. The increased bandwidth and support for Remote Direct Memory Access (RDMA) and low latency (<4 usec user-space latency) switch is ideal for applications that demand high-bandwidth and low-latency. These technologies enable industry-standard servers to be combined into effective high-performance clusters and grids.

### Product Overview

In addition to high performance computing, InfiniBand also offers the performance, security and control required for utility computing. The SFS 7000D, 7012D, and 7024D interconnect 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 7000D InfiniBand Server Switch provides an ideal combination of price, performance, and packaging for building high-performance server clusters of all sizes. The Cisco SFS 7000D, 7012D, and 7024D provide 24, 144, and 288 InfiniBand 4X ports respectively, that can operate in double data rate (DDR) or single data rate (SDR) modes delivering 20- or 10-Gbps server connectivity. They offer fully nonblocking 960-Gbps, 5.76-Tbps, and 11.5-Tbps of cross-sectional bandwidth with less than 200 nanoseconds (ns) port to port latency. The Cisco SFS 7000D comes with embedded fabric management capable of running clusters of up to thousands of nodes in a single, compact 1-rack-unit (RU) chassis. For very large clusters, the Cisco high-performance subnet manager delivers the performance necessary to build the largest InfiniBand based clusters.

The Cisco® SFS 7000D InfiniBand Server Switch provides an ideal combination of price, performance, and packaging for building high-performance server clusters of all sizes. The Cisco SFS 7000D, 7012D, and 7024D provides the following customer benefits:

- Unmatched price-to-performance ratio for building high-performance computing clusters
- Ideal interconnect for high-performance computing, scientific, and enterprise applications
- Intelligent switch with embedded fabric management, capable of running clusters of thousands of nodes
- Based on high-performance, industry standards-based InfiniBand interconnect technology
- Fabric management allows the flexibility of adding and removing servers without disrupting any other servers on the fabric
- Autosensing dual-speed Infiniband 4X DDR/SDR Interfaces

The Cisco SFS 7000D, 7012D, and 7024D integrates with other Cisco SFS 7000 Series InfiniBand server switches and Cisco SFS 3000 Series multifabric server switches for a wide range of IP Communications, storage, and WAN and LAN connectivity options. Table 1 lists the customer features of the Cisco SFS 7000D, 7012D, and 7024D.

**Table 1.** Customer Features

Feature	Description
<b>High-Performance Server Fabric</b>	24 ports, 144 ports, or 288 autosensing InfiniBand 4X Ports support either DDR (20-Gbps) or SDR (10-Gbps) full-duplex connectivity per port to deliver an ultra low-latency server fabric interconnect
<b>Non-Blocking Architecture</b>	Full bisectional bandwidth for all ports. Cut-through switching delivers low latency switch forwarding
<b>Fabric Capacity</b>	960-Gbps, 5.76-Tbps, and 11.5-Tbps of cross-sectional bandwidth
<b>Remote Direct Memory Access</b>	Move data directly from one server's memory to another, bypassing the CPU(s) and kernel
<b>High Availability</b>	Fully redundant power and cooling, with hot-swappable field-replaceable units (FRU)
<b>Rich System and Fabric Management</b>	Command-line interface (CLI), Web, and Java-based systems and server fabric management options
<b>Compact Architecture</b>	1 rack unit (RU) stackable architecture, with 4-post rack mounting kit suitable for rack-based shipping

## New Features

New features for the Cisco SFS 7000D, SFS 7012D, and SFS 7024D include the following:

- Support for InfiniBand 4X 20-Gbps (DDR) and 10-Gbps (SDR) per port
- Supports DDR-to-SDR switching capability for investment protection and higher server densities
- Support for Cisco pluggable optical modules (POM) that provide fiber InfiniBand connections up to 150 meters
- Advanced in-service and out-of-service diagnostic tests
- Compliant with Restrictions on Hazardous Substances (RoHS) standards

## Availability

The Cisco SFS 7000D, SFS 7012D, and SFS 7024D are currently under controlled availability. Table 2 lists ordering information for the Cisco SFS 7000D, SFS 7012D, and SFS 7024D.

## Ordering Information

**Table 2.** Ordering Information

Part Number	Description
<b>SFS7000D-SK9</b>	Cisco SFS 7000D InfiniBand Server Switch, 24 4X InfiniBand ports, (2) power supply/cooling units
<b>PWR-SFS7000P=</b>	Cisco SFS 7000D Power Supply/Cooling FRU
<b>SFS-7012D</b>	Cisco SFS 7012D IB Server Switch—144 Port DDR—Standard Configuration
<b>SFS-7024D</b>	Cisco SFS 7024D IB Server Switch—288 Port DDR—Standard Configuration
<b>SFS-7012D-X</b>	Cisco SFS 7012D IB Server Switch—108 Port DDR—Upgradeable Configuration
<b>SFS-7024D-X</b>	Cisco SFS 7024D IB Server Switch—156 Port DDR—Upgradeable Configuration
<b>SFSX7012/24D-4X12</b>	Cisco SFS 7012P/7024D InfiniBand 4X 12-Port DDR Line Card
<b>SFS-7012/24D-FM</b>	Cisco SFS 7012D/7024D DDR Switch Fabric Module—No Management
<b>SFS-7012/24D-MM-K9</b>	Cisco SFS 7012D/7024D DDR Switch Fabric Module—With Management

Part Number	Description
<b>FAN-SFS7012/24=</b>	Cisco SFS 7012/7024 Fan Tray
<b>PWR-SFS7012/24=</b>	Cisco SFS 7012/7024 Power Supply
<b>SFS-7012-RACK=</b>	Cisco SFS 7012 Rack Mount System
<b>SFS-7024-RACK=</b>	Cisco SFS 7024 Rack Mount System

## For More Information

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

## Marketing Contacts

Contact	Position	E-mail
<b>Amir Sharif</b>	Product Management, SFS 7000D	<a href="mailto:amsharif@cisco.com">amsharif@cisco.com</a>



**Americas Headquarters**  
Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
[www.cisco.com](http://www.cisco.com)  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 527-0883

**Asia Pacific Headquarters**  
Cisco Systems, Inc.  
168 Robinson Road  
#28-01 Capital Tower  
Singapore 068912  
[www.cisco.com](http://www.cisco.com)  
Tel: +65 6317 7777  
Fax: +65 6317 7799

**Europe Headquarters**  
Cisco Systems International BV  
Haarlerbergpark  
Haarlerbergweg 13-19  
1101 CH Amsterdam  
The Netherlands  
[www-europe.cisco.com](http://www-europe.cisco.com)  
Tel: +31 0 800 020 0791  
Fax: +31 0 20 357 1100

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