Cisco MDS 9000 Family 8-Gbps Advanced Fibre Channel Switching Modules

Cisco MDS 9000 Family 8-Gbps Advanced Fibre Channel Switching Modules Highlights

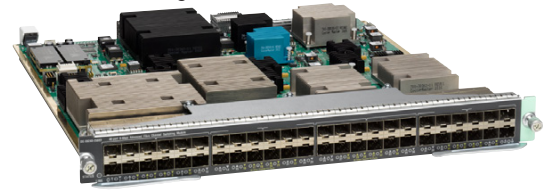
Cisco® MDS 9000 Family 8-Gbps Advanced Fibre Channel Switching Modules deliver high-performance and innovative features to enable convergence, scale, and intelligence in large, virtualized data centers. With up to 528 line-rate 8-Gbps FC ports per chassis, industry-first technologies such as Cisco FlexSpeed and Arbitrated Local Switching, intelligent fabric services such as integrated VSANs, Inter-VSAN Routing (IVR), and PortChannels, Cisco MDS 9000 Family 8-Gbps Advanced FC Switching Modules enable deployment of large, scalable, and virtualized data centers.

- Available in 32-port and 48-port configurations to address the diverse connectivity needs of high-performance storage subsystems, Inter Switching Links, and virtual machine clusters.
- Cisco FlexSpeed to configure a port as either 1/2/4/8-Gbps or 10-Gbps Fibre Channel interface for secure, high-performance native Fibre Channel SAN Extension and consolidation of 8-Gbps and 10-Gbps ports into the same module. 10-Gbps interfaces enable reduced cabling for ISLs because they provide a 50 percent higher data rate than 8-Gbps interfaces.
- Arbitrated Local Switching to provide line-rate switching for up to 528 8-Gbps ports with an aggregate bandwidth of 8.4 terra bits per second (Tbps) per chassis to consolidate SAN deployments with fewer hardware components.
- Cisco VMpath technology to simplify the management of virtual infrastructure by managing end-to-end path through physical out to virtual network across the whole data center environment.
- Compatible with all Cisco MDS 9500 Series Multilayer Directors to protect your investment and lower TCO.

Solutions

- **The 32-Port 8-Gbps Advanced Fibre Channel Switching Module** delivers line-rate performance across all ports and is ideal for high-end storage subsystems and for Inter Switch Link (ISL) connectivity.
- **The 48-Port 8-Gbps Advanced Fibre Channel Switching Module** provides higher port density and is ideal for connection of high-performance and virtualized servers. This module supports 48-ports of line-rate 8-Gbps with Arbitrated Local Switching and is perfect for deploying dense virtual machine clusters.

Figure 1. Cisco MDS 9000 Family 8-Gbps Advanced Fibre Channel Switching Modules



Cisco MDS 9000 family 48-Port 8-Gbps Advanced Fibre Channel Switching Module

Cisco MDS 9000 family 32-Port 8-Gbps Advanced Fibre Channel Switching Module

32-Port 8-Gbps Advanced Fibre Channel Switching Module

- Up to 32 8-Gbps line rate or up to 24 10-Gbps FC ports to support consolidation of 1/2/4/8-Gbps and 10-Gbps ports into the same module.
- Uncompromising performance of 512-Gbps full duplex aggregate bandwidth best suited for attachment of high performance 8-Gbps storage subsystems or either 8-Gbps or 10-Gbps Inter Switch Links (ISLs).
- Cisco FlexSpeed to provide 10-Gbps Fibre Channel interfaces enabling secure, high-performance native Fibre Channel SAN Extension.

48-Port 8-Gbps Advanced Fibre Channel Switching Module

- Higher port density with full-duplex aggregate backplane switching performance of 512-Gbps making this module ideal for high-performance virtualized server connectivity.
- 768-Gbps of full duplex aggregate switching bandwidth across locally switched ports ideal for deploying dense virtual machine clusters with locally mapped storage.
- Cisco FlexSpeed to provide 10-Gbps Fibre Channel interfaces enabling secure, high-performance native Fibre Channel SAN Extension.

Cisco MDS 9000 Family 8-Gbps Advanced Fibre Channel Switching Modules

Features and Benefits

Feature: Cisco FlexSpeed—Enables a port to be configured as either 1/2/4/8-Gbps or 10-Gbps Fibre Channel interface.

Benefit: 10-Gbps interfaces enable reduced cabling for ISLs as they provide 50 percent higher data rate than 8-Gbps interfaces and enable consolidation of 1/2/4/8-Gbps and 10-Gbps ports into the same switching module for high-performance SAN Extension and consolidation. With integrated Cisco TrustSec® encryption, the 10-Gbps links provide secure, high-performance native Fibre Channel SAN Extension.

Feature: Arbitrated Local Switching—Line-rate switching performance across all ports on the same module without affecting performance or latency of traffic exchanged with other modules in the chassis.

Benefit: High-performance local switching that can be deployed on any MDS 9500 Family Director Class chassis protects investment and provides line-rate switching performance for locally switched traffic without compromising performance for traffic exchanged with other modules.

Feature: Cisco VMpath technology—Advanced Virtual Machine aware path management.

Benefit: Simplify the management of virtual infrastructure by managing end-to-end path through physical out to virtual network across the whole data center environment.

Feature: Intelligent fabric services—Integrated support for VSAN technology, Cisco TrustSec encryption, hardware based intelligent frame processing, and advance traffic management features.

Benefit: Enable consolidation of SAN islands to high scalable and secure enterprise-wide storage networks.

Feature: Resilient inter-switch links (ISLs)—Support up to sixteen links in a single PortChannel; links can span any port on any module within a chassis.

Benefit: Added scalability and resilience.

Feature: Advanced FICON services—Supports 1/2/4/8-Gbps FICON environments, including cascaded FICON fabrics, VSAN-enabled intermix of mainframe and open systems environments, and N_Port ID virtualization for mainframe Linux partitions.

Benefit: Enables ease of FICON integration and management.

Feature: Comprehensive security framework—Supports RADIUS and TACACS+, Fibre Channel Security Protocol (FC-SP), Secure File Transfer Protocol (SFTP), Secure Shell (SSH) Protocol, and Simple Network Management Protocol Version 3 (SNMPv3) implementing Advanced Encryption Standard (AES), VSANs, hardware-enforced zoning, ACLs, and per-VSAN role-based access control.

Benefit: Enables end-to-end security.

Feature: Sophisticated diagnostics—Provides intelligent diagnostics, protocol decoding, and network analysis tools as well as integrated Call Home capability.

Benefit: Added reliability, faster problem resolution, and reduced service costs.

Powered by Cisco MDS 9000 NX-OS Software

The underlying system software for the Cisco MDS 9000 Family Multilayer Switches, Cisco MDS 9000 NX-OS Software 5.2 is designed for SANs to create a strategic SAN platform with superior reliability, performance, scalability, and features. In addition to providing all the essentials you expect in a storage network switch, it provides many unique features to help deliver low TCO and a quick return on investment.

Management

Cisco Data Center Network Manager (DCNM) is an easy-to-use Java application with GUIs that provide an integrated approach to SAN and LAN administration for ease of management in Fibre Channel SAN and unified fabric deployments. Cisco DCNM offers fabric-wide management capabilities including discovery, multiple switch configurations, real-time network monitoring, and historical performance monitoring for network traffic hotspot analysis and troubleshooting. Cisco VMpath technology provides provisioning, monitoring, and management of unified fabric resources on a per virtual machine basis enabling tracking of mission critical workloads end-to-end. This powerful approach greatly reduces switch setup times, increases overall reliability, and provides extensive diagnostics for resolving configuration inconsistencies.

For More Information

For more information about the Cisco MDS 9000 Family 8-Gbps Advanced Fibre Channel Switching Modules, visit: http://www.cisco.com/go/storage

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