



# Cisco MDS 9000 10-Gbps 8-Port FCoE Module

## Overview

The Cisco® MDS 9000 10-Gbps 8-Port FCoE Module (Figure 1) is the first module for the Cisco MDS 9500 Series Multilayer Directors that allows customers to bridge their existing Cisco MDS Fibre Channel SANs to Cisco Nexus Converged Networks using Fibre Channel over Ethernet (FCoE). The Cisco MDS 9000 10-Gbps 8-Port FCoE Module supports connectivity to FCoE switching platforms as well as to FCoE storage targets. The module is part of Cisco's complete unified fabric solution and is a critical part of the Cisco MDS 9000 Family end-to-end multihop FCoE strategy.

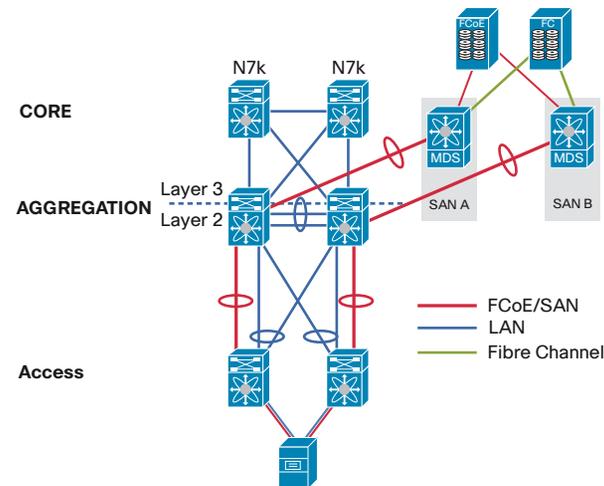
The Cisco MDS 9000 10-Gbps 8-Port FCoE Module is supported by the Cisco MDS 9500 Series and offers full line-rate performance for a total of 80-Gbps front-panel bandwidth. It provides transparent connectivity between FCoE and Fibre Channel connections and supports intelligent fabric services available on the Cisco MDS 9000 Family platform.

Moreover, FCoE takes advantage of the more efficient encoding mechanisms of 10 Gigabit Ethernet to provide 50 percent more bandwidth than 8-Gbps Fibre Channel. Used in combination with low-cost media options such as Twinax cables, the Cisco MDS 9000 10-Gbps 8-Port FCoE Module helps align the data center with the economic benefits of Ethernet while preserving the reliability and features of Fibre Channel.

Figure 1. Cisco MDS 9000 10-Gbps 8-Port FCoE Module



Delivering full line-rate 10-Gbps speed across all ports, the Cisco MDS 9000 10-Gbps 8-Port FCoE Module provides connectivity for Cisco Nexus 5000 and Cisco Nexus 7000 FCoE traffic to traditional Fibre Channel SANs. Customers can leverage one operating system (NX-OS) and one management tool (DCNM-SAN), for both converged networks and traditional Fibre Channel SANs. In doing so, customers can extend the intelligent fabric services of Fibre Channel over IP (FCIP).



The Cisco MDS 9000 10-Gbps 8-Port FCoE Module allows Cisco Nexus customers to use high-density switches at the core Fibre Channel layer, increasing scale. The storage fabric segregation can be maintained with dedicated FCoE links and Virtual Device Contexts (VDCs) in the Nexus 7000 converged network. With these connections to a Cisco Nexus® 7000 18-Slot Switch populated with 10-Gbps FCoE line-card modules, the number of director-class FCoE ports easily scales to meet the needs of the most demanding data center environments.

## 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 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 (ROI).

## Management

Cisco Data Center Network Manager (DCNM) for SAN is an easy-to-use application with a GUI that provides an integrated approach to switch and fabric administration. In fact, DCNM is a comprehensive tool that is used for both LAN, FCoE and Fibre Channel, which allows you to manage the entire data center network for both LAN and SAN using a single tool.

Cisco DCNM for SAN 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. This powerful approach greatly reduces switch setup times, increases overall fabric reliability, and provides extensive diagnostics for resolving configuration inconsistencies.

## Features and Benefits

Table 1 summarizes the features and benefits of the Cisco MDS 9000 10-Gbps 8-Port FCoE Module.



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**Table 1. Features and Benefits**

Feature	Benefit
Line-rate ports	<ul style="list-style-type: none"><li>• Full line-rate bandwidth with no oversubscription; full 80 Gbps per line card</li><li>• Up to 88 line-rate FCoE ports per chassis</li></ul>
Multihop FCoE	<ul style="list-style-type: none"><li>• Compatible with FCoE connectivity to the Cisco Nexus® 5000 and 7000 Series Switches</li></ul>
Unified OS: NX-OS Unified Management: DCNM	<ul style="list-style-type: none"><li>• Uses the same robust, proven operating system that administrators use for both Fibre Channel and FCoE traffic, providing transparent interoperability and consistency</li><li>• Extends Fibre Channel services and features to FCoE-capable systems connected to Cisco Nexus 7000 Series Switches</li><li>• Provides the same policies and management tools across Cisco Nexus Family and Cisco MDS 9000 Family platforms</li></ul>
Advanced services	<ul style="list-style-type: none"><li>• Extends director-class services, such as FCIP, to the Cisco Nexus-based converged networks</li></ul>
Higher Efficiency	<ul style="list-style-type: none"><li>• Uses line-rate 10-Gbps FCoE with 64b/66b encoding, which provides 50% more bandwidth than 8-Gbps Fibre Channel</li></ul>

## For More Information

For more information about the Cisco MDS 9000 10-Gbps 8-Port FCoE Module, visit <http://www.cisco.com/go/storage>.