

Cisco MDS 9000 NX-OS Software Release 6.2(1)

PB727485

This product bulletin discusses Cisco® MDS 9000 NX-OS Software Release 6.2(1), which runs on the Cisco MDS 9000 Family multilayer switches. It summarizes the hardware features supported and the software features available and provides software ordering information.

Supported Hardware

Table 1 summarizes the hardware features that Cisco MDS 9000 NX-OS Release 6.2(1) supports. Note that Cisco MDS 9000 NX-OS Release 6.2(1) does not support any first-generation modules.

Table 1. Cisco MDS 9000 NX-OS Release 6.2(1) Supported Hardware Features

Product Name and Part Number	Description
Cisco MDS 9700 Series Multilayer Directors	
Cisco MDS 9710 Multilayer Director (DS-C9710)	10-slot multilayer director: - Modular chassis requires 2 slots for supervisor modules, with 8 slots available for switching modules - Supervisor-1 module provides control engine for Cisco MDS 9710 - Fabric-1 crossbar modules provide up to 24 terabits per second (Tbps) of chassis switching bandwidth
Cisco MDS 9710 Switching Fabric-1 Module (DS-X9710-FAB1)	Cisco MDS 9700 Series switching Fabric-1 module for Cisco MDS 9710 Multilayer Director
Cisco MDS 9700 Series Supervisor-1 Module (DS-X97-SF1-K9)	Supervisor-1 module for Cisco MDS 9700 Series Multilayer Directors
Cisco MDS 9700 48-Port 16-Gbps Fibre Channel Switching Module with Small Form-Factor Pluggable (SFP) and Enhanced SFP (SFP+) LC (DS-X9448-768K9)	48-port, 16-Gbps Fibre Channel switching module with SFP+ LC connectors
Cisco 4-, 8-, or 16-Gbps Autosensing SFP+ LC Shortwave Interface (DS-SFP-FC16G-SW)	SFP+ optics (LC type) for 4-, 8-, or 16-Gbps Fibre Channel for shortwave mode
Cisco 4-, 8-, or 16-Gbps Autosensing SFP+ LC Shortwave Interface (DS-SFP-FC16G-LW)	SFP+ optics (LC type) for 4-, 8-, or 16-Gbps Fibre Channel for longwave mode
Cisco 2-, 4-, or 8-Gbps Autosensing SFP+ LC Shortwave Interface (DS-SFP-FC8G-SW)	SFP+ optics (LC type) for 2-, 4-, or 8-Gbps Fibre Channel for shortwave mode
Cisco 2-, 4-, or 8-Gbps Autosensing SFP+ LC Longwave Interface (DS-SFP-FC8G-LW)	SFP+ optics (LC type) for 2-, 4-, or 8-Gbps Fibre Channel for longwave mode
Cisco 2-, 4-, or 8-Gbps Autosensing SFP+ Extended Reach Interface (DS-SFP-FC8G-ER)	SFP+ optics (LC, type) for 2-, 4-, or 8-Gbps Fibre Channel for extended-reach mode
Cisco MDS 9000 Family 10-Gbps Fibre Channel Shortwave SFP+ LC (DS-SFP-FC10G-SW)	SFP+ optics for 10-Gbps Fibre Channel shortwave mode
Cisco MDS 9000 Family 10-Gbps Fibre Channel Longwave SFP+ LC (DS-SFP-FC10G-LW)	SFP+ optics for 10-Gbps Fibre Channel shortwave mode
Cisco 10GBASE-SR SFP+ Module (SFP-10G-SR)	SFP+ optics for 10-Gbps short-reach mode
Cisco 10GBASE-SR SFP+ Module (SFP-10G-LR)	SFP+ optics for 10-Gbps long-reach mode
Cisco 10GBASE-SR SFP+ Module (SFP-10G-ER)	SFP+ optics for 10-Gbps extended-reach mode
Cisco 300-watt (W) AC Power Supply (DS-CAC97-3KW)	300W AC power supply for Cisco MDS 9700 Series

Product Name and Part Number	Description
Cisco 300W DC Power Supply (DS-CAC97-3KW)	300W DC power supply for Cisco MDS 9700 Series
Cisco Prime™ Data Center Network Manager (DCNM) SAN Software and Documentation DVD	Cisco Prime DCNM software and documentation DVD for Cisco MDS 9000 NX-OS Release 6.2.(1)
Cisco MDS 9500 Series Multilayer Directors, 9100 Series Multilayer Fabric Switches, and 9200 Series Multilayer Switches	
Cisco MDS 9513 Multilayer Director (DS-C9513)	13-slot multilayer director: • Modular chassis requires 2 slots for supervisor modules, with 11 slots available for switching modules • Supervisor-2 or Supervisor-2A module provides the control engine for Cisco MDS 9513 • Two crossbar modules (Fabric-2 or Fabric-3) provide up to 8.4 Tbps of chassis switching bandwidth
Cisco MDS 9509 Multilayer Director (DS-C9509)	9-slot multilayer director: • Modular chassis requires 2 slots for supervisor modules, with 7 slots available for switching modules • Supervisor module consists of the control engine and integrated crossbar • Cisco MDS 9000 NX-OS 5.2.(2) requires the Supervisor-2 or Supervisor-2A module
Cisco MDS 9506 Multilayer Director (DS-C9506)	6-slot multilayer director: • Modular chassis requires 2 slots for supervisor modules, with 4 slots available for switching modules • Supervisor module consists of the control engine and integrated crossbar • Cisco MDS 9000 NX-OS 5.2.(2) requires the Supervisor-2 or Supervisor-2A module
Cisco MDS 9222i Multilayer Fabric Switch (DS-C9222i-K9)	3-rack-unit (3RU) semimodular multilayer fabric switch with 18 x 4-Gbps Fibre Channel ports, 4 Gigabit Ethernet ports, and optional switching module or services module
Cisco MDS 9148 48-Port Multilayer Fabric Switch (DS-C9148-16P-K9, DS-C9148-24P-K9, and DS-C9148-48P-K9)	1RU fixed-configuration multilayer fabric switch with 48 x 2/4/8-Gbps Fibre Channel ports
Cisco MDS 9500 Series Supervisor-2 Module (DS-X9530-SF2-K9)	Supervisor-2 module for Cisco MDS 9500 Series Multilayer Directors
Cisco MDS 9500 Series Supervisor-2A Module (DS-X9530-SF2AK9)	Supervisor-2A module for Cisco MDS 9500 Series
Cisco MDS 9000 12-Port 4-Gbps Fibre Channel Switching Module with SFP LC (DS-X9112)	12-port, 4-Gbps Fibre Channel switching module with SFP LC connectors for Cisco MDS 9200 Series Multilayer Switches and Cisco MDS 9500 Series Multilayer Directors
Cisco MDS 9000 24-Port 4-Gbps Fibre Channel Switching Module with SFP LC (DS-X9124)	24-port, 4-Gbps Fibre Channel switching module with SFP LC connectors for Cisco MDS 9200 and 9500 Series
Cisco MDS 9000 48-Port 4-Gbps Fibre Channel Switching Module with SFP LC (DS-X9148)	48-port, 4-Gbps Fibre Channel switching module with SFP LC connectors for Cisco MDS 9200 and 9500 Series
Cisco MDS 9000 4-Port 10-Gbps Fibre Channel Switching Module with SFP LC (DS-X9704)	4-port, 10-Gbps Fibre Channel switching module with X2 SC connectors for Cisco MDS 9222i and Cisco MDS 9500 Series
Cisco MDS 9000 24-Port 8-Gbps Fibre Channel Switching Module with SFP and SFP+ LC (DS-X9224-96K9)	24-port, 8-Gbps Fibre Channel switching module with SFP and SFP+ LC connectors for Cisco MDS 9500 Series
Cisco MDS 9000 48-Port 8-Gbps Fibre Channel Switching Module with SFP and SFP+ LC (DS-X9248-96K9)	48-port, 8-Gbps Fibre Channel switching module with SFP and SFP+ LC connectors for Cisco MDS 9500 Series
Cisco MDS 9000 4/44-Port Host-Optimized 8-Gbps Fibre Channel Switching Module with SFP and SFP+ LC (DS-X9248-48K9)	4/44-port, host-optimized 8-Gbps Fibre Channel switching module with SFP and SFP+ LC connectors for Cisco MDS 9222i and Cisco MDS 9500 Series
Cisco MDS 9000 32-Port 8-Gbps Advanced Fibre Channel Switching Module with SFP and SFP+ LC (DS-X9232-256K9)	32-port, 8-Gbps advanced Fibre Channel switching module with SFP and SFP+ LC connectors for Cisco MDS 9500 Series
Cisco MDS 9000 48-Port 8-Gbps Advanced Fibre Channel Switching Module with SFP and SFP+ LC (DS-X9248-256K9)	48-port, 8-Gbps advanced Fibre Channel switching module with SFP and SFP+ LC connectors for Cisco MDS 9500 Series
Cisco MDS 9000 16-Port Storage Services Node (SSN) (DS-X9316-SSNK9)	16-port Gigabit Ethernet IP and storage services module with SFP LC connectors for Cisco MDS 9222i and Cisco MDS 9500 Series
Cisco MDS 9000 18/4-Port Multiprotocol Services Module (MSM) (DS-X9304-18K9)	18-port, 4-Gbps Fibre Channel plus 4-port Gigabit Ethernet IP services and switching module with SFP LC connectors for Cisco MDS 9200 and 9500 Series

Product Name and Part Number	Description
Cisco MDS 9513 Switching Fabric Module (DS-13SLT-FAB1)	Cisco MDS 9000 Series switching fabric module for Cisco MDS 9513 Multilayer Director
Cisco MDS 9513 Switching Fabric-2 Module (DS-13SLT-FAB2)	Cisco MDS 9000 Series switching Fabric-2 module for Cisco MDS 9513 Multilayer Director
Cisco MDS 9513 Switching Fabric-3 Module (DS-13SLT-FAB3)	Cisco MDS Series switching Fabric-3 module for Cisco MDS 9513 Multilayer Director
Cisco MDS 9000 10-Gbps 8-Port Fibre Channel over Ethernet (FCoE) Module	Cisco 10-Gbps 8-port FCoE module for Cisco MDS 9500 Series; Cisco 10-Gbps 8-port FCoE module requires Supervisor-2A
Cisco 10-Gbps X2 Fibre Channel Short-Reach Interface (DS-X2-FC10G-SR)	X2 SC optics for 10-Gbps Fibre Channel for short-reach mode for Cisco MDS 9200 and 9500 Series
Cisco 10-Gbps X2 Fibre Channel Long-Reach Interface (DS-X2-FC10G-LR)	X2 SC optics for 10-Gbps Fibre Channel for long-reach (10 km) mode for Cisco MDS 9200 and 9500 Series
Cisco 10-Gbps X2 Fibre Channel Extended-Reach Interface (DS-X2-FC10G-ER)	X2 SC optics for 10-Gbps Fibre Channel for extended-reach (40 km) mode for Cisco MDS 9200 and 9500 Series
Cisco 10-Gbps X2 Fibre Channel Copper Interface (DS-X2-FC10G-CX4)	X2 SC optics for 10-Gbps Fibre Channel over copper for Cisco MDS 9200 and 9500 Series
Cisco 10-Gbps X2 Ethernet Short-Reach Interface (DS-X2-E10G-SR=)	X2 SC optics for 10-Gbps Ethernet for short-reach mode for Cisco MDS 9200 and 9500 Series
Cisco MDS 9000 Family 10-Gbps Fibre Channel Shortwave SFP+ LC (DS-SFP-FC10G-SW)	SFP+ optics for 10-Gbps Fibre Channel shortwave mode for Cisco MDS 9500 Series
Cisco MDS 9000 Family 10-Gbps Fibre Channel Longwave SFP+ LC (DS-SFP-FC10G-LW)	SFP+ optics for 10-Gbps Fibre Channel longwave mode for Cisco MDS 9500 Series
Cisco 2-, 4-, or 8-Gbps Autosensing SFP+ LC Shortwave Interface (DS-SFP-FC8G-SW)	SFP+ optics (LC type) for 2-, 4-, or 8-Gbps Fibre Channel for shortwave mode for Cisco MDS DS-X9200 switching modules
Cisco 2-, 4-, or 8-Gbps Autosensing SFP+ LC Longwave Interface (DS-SFP-FC8G-LW)	SFP+ optics (LC type) for 2-, 4-, or 8-Gbps Fibre Channel for longwave mode for Cisco MDS DS-X9200 switching modules; supports distances up to 10 km
Cisco 2-, 4-, or 8-Gbps Autosensing SFP+ Extended Reach Interface (DS-SFP-FC8G-ER)	SFP+ optics (LC, type) for 2-, 4-, or 8-Gbps Fibre Channel for extended-reach mode for Cisco MDS DS-X9200 switching modules; supports distances up to 40 km
Cisco 1-, 2-, or 4-Gbps Autosensing SFP LC Shortwave Interface (DS-SFP-FC4G-SW)	SFP optics (LC type) for 1-, 2-, or 4-Gbps Fibre Channel for shortwave mode for Cisco MDS 9124 Multilayer Fabric Switch and Cisco MDS DS-X9100 switching modules
Cisco 1-, 2-, or 4-Gbps Autosensing SFP LC Longwave (4-km Reach) Interface (DS-SFP-FC4G-MR)	SFP optics (LC type) for 1-, 2-, or 4-Gbps Fibre Channel for longwave mode for Cisco MDS 9124 and Cisco MDS DS-X9100 switching modules; supports distances up to 4 km
Cisco 1-, 2-, or 4-Gbps Autosensing SFP LC Longwave Interface (DS-SFP-FC4G-LW)	SFP optics (LC type) for 1-, 2-, or 4-Gbps Fibre Channel for longwave mode for Cisco MDS 9124 and Cisco MDS DS-X9100 switching modules; supports distances up to 10 km
Cisco 1-Gbps Ethernet and 1- or 2-Gbps Fibre Channel SFP LC Shortwave Interface (DS-SFP-FCGE-SW)	SFP optics (LC type) for 1-Gbps Ethernet and 1- or 2-Gbps Fibre Channel for shortwave mode for Cisco MDS 9500 and 9200 Series and Cisco MDS 9100 Series Multilayer Fabric Switches; not supported for use in 4-Gbps-capable ports
Cisco 1-Gbps Ethernet and 1- or 2-Gbps Fibre Channel SFP LC Longwave Interface (DS-SFP-FCGE-LW)	SFP optics (LC type) for 1-Gbps Ethernet and 1- or 2-Gbps Fibre Channel for longwave mode for Cisco MDS 9500, 9200, and 9100 Series; not supported for use in 4-Gbps-capable ports
Cisco 1-Gbps Copper Ethernet SFP (DS-SFP-GE-T)	SFP (RJ-45 connector) for Gigabit Ethernet over copper for Cisco MDS 9500, 9200, and 9100 Series
Cisco Coarse Wavelength-Division Multiplexing (CWDM) Gigabit Ethernet and 1- or 2-Gbps Fibre Channel SFP LC Interface (DS-CWDM-xxxx=)	CWDM Gigabit Ethernet and 1- or 2-Gbps Fibre Channel SFP LC type for Cisco MDS 9500, 9200, and 9100 Series, where product number xxxx = 1470, 1490, 1510, 1530, 1550, 1570, 1590, or 1610 nm
Cisco CWDM 4-Gbps Fibre Channel SFP LC Interface (DS-CWDM4Gxxxx=)	CWDM 4-Gbps Fibre Channel SFP LC type for Cisco MDS 9500, 9200, and 9100 Series, where product number xxxx = 1470, 1490, 1510, 1530, 1550, 1570, 1590, or 1610 nm
Cisco Dense Wavelength-Division Multiplexing (DWDM) 10-Gbps X2 Ethernet for Fibre Channel SC Interface (DWDM-X2-xx.xx=)	DWDM X2 SC optics for 10-Gbps Fibre Channel connectivity to an existing Ethernet DWDM infrastructure for Cisco MDS 9500 and 9200 Series, with 15xx.xx nm wavelength, where xx.xx = 60.61, 59.79, 58.98, 58.17, 56.55, 55.75, 54.94, 54.13, 52.52, 51.72, 50.92, 50.12, 48.51, 47.72, 46.92, 46.12, 44.53, 43.73, 42.94, 42.14, 40.56, 39.77, 38.98, 38.19, 36.61, 35.82, 35.04, 34.25, 32.68, 31.90, 31.12, or 30.33
Cisco DWDM Gigabit Ethernet and 1- or 2-Gbps Fibre Channel SFP LC Interface (DWDM-SFP-xxxx=)	DWDM Gigabit Ethernet and 1- or 2-Gbps Fibre Channel SFP LC type for Cisco MDS 9500, 9200, and 9100 Series, where product number xxxx = 3033, 3112, 3190, 3268, 3425, 3504, 3582, 3661, 3819, 3898, 3977, 4056, 4214, 4294, 4373, 4453, 4612, 4692, 4772, 4851, 5012, 5092, 5172, 5252, 5413, 5494, 5575, 5655, 5817, 5898, 5979, or 6061 nm

Product Name and Part Number	Description
Cisco DWDM 4-Gbps Fibre Channel SFP LC Interface (ONS-SC-4G-xx.x=)	DWDM 4-Gbps Fibre Channel SFP LC type for Cisco MDS 9500, 9200, and 9100 Series, where product number xx.x = 61.4, 60.6, 59.7, 58.9, 58.1, 57.3, 56.5, 55.7, 54.9, 54.1, 53.3, 52.5, 51.7, 50.9, 50.1, 49.3, 48.5, 47.7, 46.9, 46.1, 45.3, 44.5, 43.7, 42.9, 42.1, 41.3, 40.5, 39.7, 38.9, 38.1, 37.4, 36.6, 35.8, 35.0, 34.2, 33.4, 32.6, 31.9, 31.1, or 30.3
Cisco 4-Wavelength Add/Drop Multiplexer (ADM) (DS-CWDMOADM4A=)	4-channel CWDM optical ADM (OADM) module (Cisco CWDM 1470, 1490, 1510, or 1530 nm ADM)
Cisco 4-Wavelength ADM (DS-CWDMOADM4B=)	4-channel CWDM OADM module (Cisco CWDM 1550, 1570, 1590, or 1610 nm ADM)
Cisco 8-Wavelength ADM (DS-CWDM-MUX8A=)	ADM for 8 CWDM wavelengths
Cisco CWDM Multiplexer Chassis (DS-CWDMCHASSIS=)	2-slot chassis for CWDM ADMs
Cisco 300W AC Power Supply (DS-CAC-300W)	300W AC power supply for Cisco MDS 9100 Series
Cisco 845W AC Power Supply (DS-CAC-845W)	845W AC power supply for Cisco MDS 9200 Series
Cisco 3000W AC Power Supply (DS-CAC-3000W)	3000W AC power supply for Cisco MDS 9509
Cisco 2500W AC Power Supply (DS-CAC-2500W)	2500W AC power supply for Cisco MDS 9509
Cisco 6000W AC Power Supply (DS-CAC-6000W)	6000W AC power supply for Cisco MDS 9513
Cisco 1900W AC Power Supply (DS-CAC-1900W)	1900W AC power supply for Cisco MDS 9506
Cisco 512-MB Compact Flash Memory (MEM-MDS-FLD512M)	Cisco MDS 9500 Series external 512-MB compact flash memory for supervisor module
Cisco MDS 9000 Port Analyzer Adapter (DS-PAA-2, DS-PAA)	Cisco MDS 9000 port analyzer adapter for troubleshooting and analysis of Fibre Channel traffic
Cisco Prime DCNM SAN Software and Documentation DVD	Cisco Prime DCNM software and documentation DVD for Cisco MDS 9000 NX-OS Release 6.2.(1)

New Software Features

Table 2 summarizes the major new software features available in Cisco MDS 9000 NX-OS Release 6.2.(1).

Table 2. Cisco MDS 9000 NX-OS Release 6.2.(1) Features

Software Feature	Description
Cisco MDS 9000 NX-OS	Software support for: • 16-Gbps Fibre Channel • Inter-VSAN Routing (IVR) • N-Port Virtualization (NPV) • Cisco Data Mobility Manager (DMM) • Cisco I/O Acceleration (IOA) • Smart zoning

Ordering Information for Software Images

Table 3 lists the new software images and applicable software ordering information for the Cisco MDS 9000 Family.

Table 3. Software Ordering Information

Part Number	Description
M97S3K9-6.2.1	MDS 9710 Supervisor/Fabric-3, NX-OS Software Release 6.2(1)
M95S2K9-6.2.1	Cisco MDS 9500 Supervisor/Fabric-2, NX-OS Software Release 6.2.(1)
M92S3K9-6.2.1	MDS 9250 Supervisor/Fabric-3, NX-OS Software Release 6.2(1)
M92S2K9-6.2.1	Cisco MDS 9200 Supervisor/Fabric-2, NX-OS Software Release 6.2.(1)
M91S3K9-6.2.1	Cisco MDS 9100 Supervisor/Fabric-3, NX-OS Software Release 6.2.(1)
SSI-M9K9-6.2.1	Cisco Storage Services Interface-version 6.2.(1)

For More Information

- For more detailed information about this Cisco software release, refer to the Cisco MDS 9000 Family release notes at http://www.cisco.com/en/US/products/hw/ps4159/ps4358/prod_release_notes_list.html.
- For more information about the Cisco MDS 9000 Family, refer to the product literature at http://www.cisco.com/en/US/products/hw/ps4159/ps4358/prod_literature.html.
- For more information about license packages, refer to the data sheets in the product literature.



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