



Cisco MDS 9000 Family SAN-OS Release 1.2(1)

Use this publication for the Cisco MDS 9500 series Multilayer Directors, Cisco MDS 9200 and 9100 Series Multilayer Fabric Switches that run Cisco MDS 9000 Family SAN-OS Release 1.2(1).

Hardware Supported

Table 1 Software Release 1.2(1) Hardware Features

Hardware Feature	Description
Cisco MDS 9509 Director (DS-C9509)	A 9-slot Multilayer Director. The modular chassis requires 2 slots for Supervisor Modules with 7 slots available for Switching Modules. The Supervisor Module consists of a Control Engine and an Integrated Crossbar.
Cisco MDS 9506 Director (DS-C9506)	A 6-slot Multilayer Director. The modular chassis requires 2 slots for Supervisor Modules with 4 slots available for Switching Modules. The Supervisor Module consists of a Control Engine and an Integrated Crossbar.
Cisco MDS 9216 Fabric Switch (DS-C9216-K9)	A 3-RU semi-modular Fabric Switch with sixteen (16) 1/2 Gbps auto-sensing Fibre Channel (FC) ports and an optional Switching Module or IP Storage Services Module.
Cisco MDS 9140 Fabric Switch (DS-C9140-K9)	A 1-RU fixed configuration Fabric Switch with forty (40) 1/2 Gbps auto-sensing FC ports.
Cisco MDS 9120 Fabric Switch (DS-C9120-K9)	A 1-RU fixed configuration Fabric Switch with twenty (20) 1/2 Gbps auto-sensing FC ports.
MDS 9500 supervisor/fabric-I, module (DS-X9530-SF1-K9)	Supervisor Module for MDS 9500 Series Directors.
16-port 1/2 Gbps auto-sensing Fibre Channel switching module, SFP/LC (DS-X9016)	16-port 1/2 Gbps auto-sensing Fibre Channel Switching Module with Small Form-Factor Pluggable (SFP)/LC connectors for the Cisco MDS 9216 Fabric Switch and Cisco MDS 9500 series Directors.
32-port 1/2 Gbps auto-sensing Fibre Channel switching module, SFP/LC (DS-X9032)	32-port 1/2 Gbps auto-sensing Fibre Channel Switching Module with SFP/LC connectors for the Cisco MDS 9216 Fabric Switch and Cisco MDS 9500 Series Directors.
DS-X9308-SMIP	An eight-port (8) Gigabit Ethernet IP Storage Services Module for the Cisco MDS 9216 Fabric Switch and Cisco MDS 9500 Series Directors.
1/2 Gbps auto-sensing SFP/LC interface, SW (DS-SFP-FC-2G-SW)	SFP (LC type) for 1/2 Gbps Fibre Channel for ShortWave (SW) mode for the Cisco MDS 9000 Family.
1/2 Gbps auto-sensing SFP/LC interface, LW (DS-SFP-FC-2G-LW)	SFP (LC type) for 1/2 Gbps Fibre Channel for LongWave (LW) mode for the Cisco MDS 9000 Family.
1 Gbps Ethernet and 1/2 Gbps Fibre Channel-SW SFP/LC interface (DS-SFP-FCGE-SW)	SFP (LC type) for 1 Gbps Ethernet and 1/2 Gbps Fibre Channel for SW mode for the Cisco MDS 9000 Family.



Table 1 Software Release 1.2(1) Hardware Features

Hardware Feature	Description
1 Gbps Ethernet and 1/2 Gbps Fibre Channel-LW SFP/LC interface (DS-SFP-FCGE-LW)	SFP (LC type) for 1 Gbps Ethernet and 1/2 Gbps Fibre Channel for LW mode for the Cisco MDS 9000 Family.
Coarse Wave Division Multiplexing (CWDM) Gigabit Ethernet and 1/2 Gbps Fibre Channel SFP/LC interface (CWDM-SFP-xxxx-2G)	xxxx nm CWDM Gigabit Ethernet and 1/2 Gbps Fibre Channel SFP/LC. Where xxxx = 1470 nm, 1490 nm, 1510 nm, 1530 nm, 1550 nm, 1570 nm, 1590 nm, 1610 nm for the Cisco MDS 9000 Family.
Four Wavelength Add/Drop Multiplexer (CWDM-MUX-4)	Add/Drop Multiplexer for 4 CWDM Wavelengths.
Eight Wavelength Add/Drop Multiplexer (CWDM-MUX-8)	Add/Drop Multiplexer for 8 CWDM Wavelengths.
CWDM Multiplexer Chassis (CWDM-CHASSIS-2)	2 Slot Chassis for CWDM Add/Drop Multiplexer(s).
300 WAC power supply (DS-CAC-300W)	AC power supply for Cisco MDS 9100 Series Fabric Switches.
845 WAC power supply (DS-CAC-845W)	AC power supply for Cisco MDS 9216 Fabric Switch.
2500 WAC power supply (DS-CAC-2500W)	AC power supply for Cisco MDS 9509 Multilayer Director.
2500 WDC power supply (DS-CDC-2500W)	DC power supply for Cisco MDS 9509 Multilayer Director.
4000 WAC power supply (DS-CAC-4000W-US)	AC power supply for Cisco MDS 9509 Multilayer Director, for US (cable attached).
4000 WAC power supply (DS-CAC-4000W-INT)	AC power supply for Cisco MDS 9509 Multilayer Director, international (cable attached).
1900 WAC power supply (DS-CAC-1900W)	AC Power Supply for MDS 9506 Director.
1900 WDC power supply (DS-CDC-1900W)	DC Power Supply for MDS 9506 Director.
512 MB CompactFlash (MEM-MDS-FLD512M)	Cisco MDS 9500 series external 512 MB CompactFlash for Supervisor Module.
Port Analyzer Adapter (DS-PAA)	Cisco MDS 9000 Port Analyzer Adapter for troubleshooting and analysis of Fibre Channel traffic.



Software Features

Table 2 Software Release 1.2(1) Software Features

Software Feature	Description
LUN Zoning	Hardware-based zoning that restricts SCSI initiator (host) access to specified SCSI logical unit numbers (LUNs) within a target device.
Read-only Zones	A hardware enforced zone property that limits SCSI initiator access to read-only operations for zones (applicable to all MDS zoning types). Both read/write and read-only zones can be configured in the same VSAN.
IP Access Control Lists (ACL)	Access lists that selectively permit or deny access to the Cisco MDS 9000 Family in-band (IP-over-FC) and out-of-band (Ethernet management port) based on a range of IP addresses and protocol types.
Port Security	Prevents unauthorized access to Fibre Channel (FC) ports by rejecting login requests from unknown hosts and switch devices. Allowed devices can be manually specified for all ports, individual ports, or ranges of ports. Port security settings can also be learned automatically from current FC configuration.
VSAN-Based Access Controls	Qualifies user roles by VSAN, to enable alignment of roles with logical partitioning of the physical network infrastructure.
Remote Switched Port Analyzer (RSPAN)	Enables SPAN sources to target SPAN destination ports on remote switches.
Common SNMP-CLI Roles	Roles created or modified using CLI or SNMP can be associated with both CLI and SNMP users.
New CLI Commands	New CLI commands include: clear license, clear line, clear port-security, clear ssh hosts, clear user, fc-tunnel, install license, install module epld, interface fc-tunnel, ip access-list, port-security, port-security database, rspan-tunnel, vsan policy deny, show auto-copy, show fc-tunnel, show hardware, show incompatibility, show install all impact, show ip access-list, show license, show line, show port-security.
Modified CLI Commands	Modified CLI commands include: boot, dir, fcping, line com 1, span session, show span session, show tech-support, zone name. Refer to the <i>Cisco MDS 9000 Family Command Reference</i> for further information on CLI commands.
Management Information Bases (MIBs)	This release supports the following additional MIBs: CISCO-PSM-MIB, CISCO-FC-SPAN-MIB, CISCO-IMAGE-UPGRADE-MIB, CISCO-IMAGE-CHECK-MIB, CISCO-COMMON-ROLES-MIB, CISCO-IP-PROTOCOL-FILTER-MIB.

Orderable Software Images

The following table lists the software images and applicable ordering information for the Cisco MDS 9500 series Multilayer Directors, Cisco MDS 9200 and 9100 Series Multilayer Fabric Switches.

Table 3 Software Ordering Information

Orderable Product Number	Description
M95S1K9-1.2.1	Cisco MDS 9500 Series Supervisor/Fabric-I, Enterprise SW, Release 1.2.1
M92S1K9-1.2.1	Cisco MDS 9216 Enterprise SW, Release 1.2.1
M91S1K9-1.2.1	Cisco MDS 9100 Series Enterprise SW, Release 1.2.1

For more detailed information concerning this 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

Review the Cisco MDS 9000 Family literature at:

http://www.cisco.com/en/US/products/hw/ps4159/ps4358/prod_literature.html



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