

New and Changed Information

This chapter provides release-specific information for each new and changed feature in the Cisco MDS SAN-OS Release 2.x software. The *Cisco MDS 9000 Family Configuration Guide* is updated to address each new and changed feature in the Cisco MDS SAN-OS Release 2.x software. The latest version of this document is available at the following Cisco Systems website:

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



Tip

The configuration guides created for previous releases are also listed in the website mentioned above. Each guide addresses the features introduced in or available in those releases. Select and view the configuration guide pertinent to the software installed in your switch.

To check for additional information about Cisco MDS SAN-OS Release 2.x, refer to the *Cisco MDS 9000 Family Release Notes* available at the following Cisco Systems website:

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

Table 1 summarizes the new and changed features for the *Cisco MDS 9000 Family Configuration Guide*, and tells you where they are documented. The table includes a brief description of each new feature and the release in which the change occurred.

Table 1 ***New and Changed Features for Release 2.x***

Feature	Description	Changed in Release	Where Documented
Nondisruptive Storage Services Module (SSM) image upgrade	Allows no disruption of Fibre Channel switching traffic when upgrading the SSI boot image on an SSM using the install ssi command.	2.1(2)	Chapter 10, “Managing Modules”
New default initial state for SSMs	SSMs initially come up in Fibre Channel switching mode by default.	2.1(2)	Chapter 10, “Managing Modules”
Advanced Services Modules (ASMs) not supported	ASMs are not supported in Cisco MDS SAN-OS software.	2.1(2)	Chapter 10, “Managing Modules”
VERITAS Storage Foundation for Networks (VSN) not supported	VSN is not supported.	2.1(2)	Chapter 10, “Managing Modules”
Persistent FC IDs for IVR	Allows persistent FC IDs in an IVR configuration.	2.1(2)	Chapter 18, “Configuring Inter-VSAN Routing”

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Table 1 *New and Changed Features for Release 2.x (continued)*

Feature	Description	Changed in Release	Where Documented
SCSI flow services support for interfaces	Allows the configuration of SCSI flow services on groups of four interfaces as well as the entire module.	2.1(2)	Chapter 38, “Configuring SCSI Flow Services and Statistics”
Special characters in TACACS+ global secret keys	Allows the use of the dollar sign (\$) and the percent sign (%) in TACACS+ secret global keys.	2.1(2)	Chapter 28, “Configuring RADIUS and TACACS+”
Control for SNMP notifications for linkUp/linkDown traps	Allows the user to configure which linkUp/linkDown trap notifications to enable for interfaces.	2.1(2)	Chapter 27, “Configuring SNMP”
NASB storage array controller support	Allows the user to enable NASB for storage array controller devices.	2.1(2)	Chapter 41, “Configuring NASB”
NASB target rediscovery	Allows NASB to rediscover a target device.	2.1(2)	Chapter 41, “Configuring NASB”
Multiple LUNs for NASB	Allows up to 10 target LUNs for NASB.	2.1(2)	Chapter 41, “Configuring NASB”
iSCSI duplicate WWN check	Allows users to check for potential WWN conflicts in the current configuration	2.1(2)	Chapter 35, “Configuring iSCSI”
Inter-VSAN Routing (IVR) Network Address Translation (NAT)	Allows non-unique domain IDs in an IVR topology. This feature simplifies the deployment of IVR in an existing fabric.	2.1(1a)	Chapter 18, “Configuring Inter-VSAN Routing”
IVR VSAN topology auto mode	Uses CFS configuration distribution in auto mode to learn the topology of the IVR-enabled switches in the network.	2.1(1a)	Chapter 18, “Configuring Inter-VSAN Routing”
IVR service groups	Reduces the amount of traffic to non-IVR-enabled switches by restricting IVR-related traffic to the IVR-enabled switches.	2.1(1a)	Chapter 18, “Configuring Inter-VSAN Routing”
Multiple autonomous fabric IDs (AF IDs) for IVR	Allows more than one VSAN in the network with the same VSAN ID.	2.1(1a)	Chapter 18, “Configuring Inter-VSAN Routing”
IVR LUN zoning	Allows IVR to directly support LUN zoning.	2.1(1a)	Chapter 18, “Configuring Inter-VSAN Routing”
IVZ QoS	Allows IVZ QoS to be configured separately from other zone attributes.	2.1(1a)	Chapter 18, “Configuring Inter-VSAN Routing”
SANTap	Allows third-party data storage applications, such as long distance replication and continuous backup, to be integrated into the SAN.	2.1(1a)	Chapter 40, “Configuring SANTap”
Network-Accelerated Storage Backup (NSAB)	Supports server-free backups in the SAN.	2.1(1a)	Chapter 41, “Configuring NASB”
Distributed configuration copy	Instructs the other switches in the fabric to save their configurations to their local NVRAM.	2.1(1a)	Chapter 4, “Initial Configuration”

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Table 1 ***New and Changed Features for Release 2.x (continued)***

Feature	Description	Changed in Release	Where Documented
Enhanced IP compression auto mode	Allows auto mode option to use a combination of compression modes to effectively utilize the WAN bandwidth.	2.1(1a)	Chapter 37, "Configuring IP Storage"
Zone, zone set, fcalias, and zone attribute set cloning	Allows cloning of a new zone, zone set, fcalias, or zone attribute set can be cloned from an existing zone, zone set, fcalias, or zone attribute set.	2.1(1a)	Chapter 19, "Configuring and Managing Zones"
VSFN support on the SSM	Provides support for VSFN on the SSM.	2.1(1a)	Chapter 10, "Managing Modules"
File system support for log:	Allows the file system commands to support a new file system called log: for system message log files.	2.1(1a)	Chapter 44, "Configuring System Message Logging"
iSCSI enhancements	Includes the following iSCSI features: <ul style="list-style-type: none"> • iSCSI cut-thru routing mode in addition to pass-thru and store-and-forward modes. • iSCSI immediate data • iSCSI unsolicited data 	2.1(1a)	Chapter 37, "Configuring IP Storage"
Disable interface bit error rate thresholds	Allows the user to disable bit error rate threshold for a Fibre Channel interface.	2.1(1a)	Chapter 11, "Configuring Interfaces"
Storage Services Module (SSM)	Provides 32 Fibre Channel ports for distributed Intelligent Storage Services and Fibre Channel switching.	2.0(2b)	Chapter 1, "Product Overview" Chapter 10, "Managing Modules" Chapter 38, "Configuring SCSI Flow Services and Statistics" Chapter 39, "Configuring Fibre Channel Write Acceleration" Chapter 40, "Configuring SANTap" Chapter 41, "Configuring NASB"
Fibre Channel write acceleration	Provides support for Fibre Channel write acceleration on the Storage Services Module (SSM), which minimizes application latency or reduces transactions per second over long distances.	2.0(2b)	Chapter 39, "Configuring Fibre Channel Write Acceleration"
SCSI flow statistics	Collects statistics for SCSI flows.		
FICON enhancements	Provides support for FICON on MPS-14/2 modules.	2.0(2b)	Chapter 1, "Product Overview"
ELP enhancement	Provides FELP compliance with FC-SW-3.	2.0(2b)	Chapter 25, "Advanced Features and Concepts"

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Table 1 ***New and Changed Features for Release 2.x (continued)***

Feature	Description	Changed in Release	Where Documented
14/2-port Multiprotocol Services (MPS-14/2) module	Provides 14 Fibre Channel ports and two Gigabit Ethernet ports, which allow the use of FCIP and iSCSI features.	2.0(1b)	Chapter 1, “Product Overview” Chapter 37, “Configuring IP Storage” Chapter 30, “Configuring IPsec Network Security”
Cisco MDS 9216i Switch	Provides one fixed integrated supervisor module with 14 Fibre Channel ports, 2 IP ports, and an expansion slot that supports up to 32 additional ports.		
Cisco MDS 9216A Switch	Provides one fixed integrated supervisor module with 16 Fibre Channel ports and an expansion slot that supports up to 32 additional ports.		
File system enhancements	Allows you to use the Tab key to complete schemes, servers, and file names available in the file system	2.0(1b)	Chapter 2, “Before You Begin”
Extended ping command	Provides additional options to verify the connectivity of a remote host or server.		
Initial setup changes	Enhances the questions in the initial set up routine and the order in which they appear is enhanced to reflect the various changes in the Cisco SAN-OS Release 2.0(1b) software.	2.0(1b)	Chapter 4, “Initial Configuration”
show inventory command	Displays information on the field replaceable units (FRUs) in the switch, including product IDs, serial numbers, and version IDs.	2.0(1b)	Chapter 9, “Managing System Hardware”
Cisco Fabric Services Infrastructure	Enables efficient database distribution and fosters device flexibility	2.0(1b)	Chapter 5, “Using the CFS Infrastructure”
Dynamic VSANs	Allows you to dynamically assign VSAN membership to ports based on the device WWN.	2.0(1b)	Chapter 17, “Creating Dynamic VSANs”
Graceful shutdown	Allows the Cisco SAN-OS software to implicitly perform a graceful shutdown if you shut down an interface operating in the E port mode or if a Cisco SAN-OS software application executes a port shutdown as part of its function.	2.0(1b)	Chapter 11, “Configuring Interfaces”
Extended BB_credits	Allows you to configure up to 3,500 receive BB_credits on a Fibre Channel port to facilitate BB_credits for long haul links.		
Small form-factor pluggable (SFP)	Replaces the term FCOT (Fibre Channel optical transmitter) with the term SFP in the Cisco SAN-OS software and in the documentation.		
PortChannel	Includes a new mode (ACTIVE) and a new protocol (autocreation).	2.0(1b)	Chapter 13, “Configuring PortChannels”

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Table 1 ***New and Changed Features for Release 2.x (continued)***

Feature	Description	Changed in Release	Where Documented
Zone-based QoS	Provides an additional segregation mechanism to configure the Quality of Service (QoS) priority as a zone attribute.	2.0(1b)	Chapter 19, "Configuring and Managing Zones" Chapter 47, "Configuring Fabric Congestion Control and QoS"
Enhanced zoning	Provides compliance with FC-GS-4 and FC-SW-3. Both standards support basic zoning and enhanced zoning functionalities.		Chapter 19, "Configuring and Managing Zones"
Distributed Device Alias Services	Allows you to distribute device alias names on a fabric-wide basis.	2.0(1b)	Chapter 20, "Distributing Device Alias Services"
Security	Network operator default.	2.0(1b)	Chapter 26, "Configuring Users and Common Roles" Chapter 27, "Configuring SNMP" Chapter 28, "Configuring RADIUS and TACACS+" Chapter 29, "Configuring IP Access Control Lists" Chapter 30, "Configuring IPsec Network Security" Chapter 31, "Configuring FC-SP and DHCHAP" Chapter 32, "Configuring Port Security"
	Administrator password must be configured.		
	Multiple roles support.		
	Advanced Encryption Standard usage.		
	Unified users and passwords.		
	The error-enabled command.		
The snmp-server enable traps fcdomain command	Allows you to enable a specific SNMP trap (for example, fcdomain traps) notification.	2.0(1b)	
RMON configuration	Allows CLI configuration of RMON alarms and events.	2.0(1b)	Chapter 42, "Configuring RMON"
Multicast compliance	Allows interoperability with other vendor switches. The Cisco SAN-OS software uses the lowest domain switch as the root to compute the multicast tree in interop mode.	2.0(1b)	Chapter 21, "Configuring Fibre Channel Routing Services and Protocols"
IP-ACL changes	Allows you to apply IP-ACLs to Gigabit Ethernet interfaces (IPS modules) and Ethernet PortChannel interfaces.	2.0(1b)	Chapter 36, "Configuring IP Services" Chapter 37, "Configuring IP Storage"
IP storage	Tape acceleration.	2.0(1b)	Chapter 37, "Configuring IP Storage"
	iSNS server.		
	Mutual CHAP authentication.		
	FCIP compression enhancements.		
	Other changes (defaults).		

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Feature	Description	Changed in Release	Where Documented
AAA accounting log	Deprecates the aaa accounting logsize command. The default size of the accounting log is increased to 250,000 bytes and cannot be changed.	2.0(1b)	Chapter 28, “Configuring RADIUS and TACACS+”
IP Security (IPsec)	Provides security services at the IP layer, including protecting one or more data flows between a pair of hosts, between a pair of security gateways, or between a security gateway and a host.	2.0(1b)	Chapter 30, “Configuring IPsec Network Security”
Internet Key Exchange (IKE)	Allows IPsec to use the IKE protocol to handle protocol and algorithm negotiation and to generate the encryption and authentication keys to be used by IPsec.		
Call Home enhancements	Provides message throttling capabilities, periodic inventory messages, port syslog messages, and RMON alert messages.	2.0(1b)	Chapter 45, “Configuring Call Home”
Port tracking	Uses information about the operational state of the link to initiate a failure in the link that connects edge device. This feature is unique to the Cisco MDS 9000 Family.	2.0(1b)	Chapter 48, “Configuring Port Tracking”
SAN extension (SET) tuner	Helps you optimize FCIP performance by generating SCSI I/O commands and directing such traffic to a specific virtual target. This feature is unique to the Cisco MDS 9000 Family.	2.0(1b)	Chapter 34, “Configuring the SAN Extension Tuner”
Command Scheduler	Helps you schedule configuration and maintenance jobs in any switch in the Cisco MDS 9000 Family.	2.0(1b)	Chapter 15, “Scheduling Maintenance Jobs”
WWN changes	Uses WWNs during link initialization by the Exchange Link Protocol (ELP) and the Exchange Fabric Protocol (EFP).	2.0(1b)	Chapter 25, “Advanced Features and Concepts”
FC ID changes	Conserves the number of FC IDs used with a special FC ID allocation scheme used by Cisco MDS 9000 Family switches.		
	Enables the persistent Fibre Channel ID (FC ID) feature is enabled by default.		Chapter 14, “Configuring Domain Parameters” Chapter 4, “Initial Configuration”
Storing the last core to flash	Saves the last core dump (service core) automatically to the Flash memory in the /mnt/pss/ partition before the switchover or reboot occurs.	2.0(1b)	Chapter 50, “Monitoring System Processes and Logs”