



Preface

This preface describes the audience, organization, and conventions of the *IP Services Configuration Guide, Cisco DCNM for SAN*. It also provides information on how to obtain related documentation.

Audience

This guide is for experienced network administrators who are responsible for configuring and maintaining the Cisco MDS 9000 Family of multilayer directors and fabric switches.

Organization

This guide is organized as follows:

| Chapter | Title | Description |
|-----------|-------------------------------------|--|
| Chapter 1 | IP Services Overview | Provides an overview of the Intelligent Storage Services supported by the Cisco MDS 9000 NX-OS software. |
| Chapter 2 | Configuring FCIP | Describes how the switch allows IP hosts to access Fibre Channel storage using the iSCSI protocol. |
| Chapter 3 | Configuring the SAN Extension Tuner | Explains the SAN extension tuner (SET) feature that optimizes FCIP performance. |
| Chapter 4 | Configuring iSCSI | Describes the iSCSI feature that is specific to the IPS module and is available in the Cisco MDS 9200 Switches or Cisco MDS 9500 Directors. |
| Chapter 5 | Configuring IP Services | Provides details on IP over Fibre Channel (IPFC) services and provides configuring IPFC, virtual router, and DNS server configuration information. |



| Chapter | Title | Description |
|-----------|--|---|
| Chapter 6 | Configuring IP Storage | Provides details on extending the reach of Fibre Channel SANs by connecting separated SAN islands together through IP networks using FCIP, and allowing IP hosts to access FC storage using the iSCSI protocol. |
| Chapter 7 | Configuring IPv4 for Gigabit Ethernet Interfaces | Describes the IPv4 protocol support provided by Cisco MDS 9000 Family switches. |
| Chapter 8 | Configuring IPv6 for Gigabit Ethernet Interfaces | Describes the IPv6 protocol support provided by Cisco MDS 9000 Family switches. |

Document Conventions

Command descriptions use these conventions:

| | |
|----------------------|---|
| boldface font | Commands and keywords are in boldface. |
| <i>italic font</i> | Arguments for which you supply values are in italics. |
| [] | Elements in square brackets are optional. |
| [x y z] | Optional alternative keywords are grouped in brackets and separated by vertical bars. |

Screen examples use these conventions:

| | |
|-----------------------------|---|
| screen font | Terminal sessions and information the switch displays are in screen font. |
| boldface screen font | Information you must enter is in boldface screen font. |
| <i>italic screen font</i> | Arguments for which you supply values are in italic screen font. |
| < > | Nonprinting characters, such as passwords, are in angle brackets. |
| [] | Default responses to system prompts are in square brackets. |
| !, # | An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line. |

This document uses the following conventions:

- Note** Means reader *take note*. Notes contain helpful suggestions or references to material not covered in the manual.
- Caution** Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Related Documentation

The documentation set for the Cisco MDS 9000 Family includes the following documents. To find a document online, use the Cisco MDS NX-OS Documentation Locator at:

http://www.cisco.com/en/US/docs/storage/san_switches/mds9000/roadmaps/doclocator.htm

Send documentation comments to dcnm-san-docfeedback@cisco.com

Release Notes

- *Cisco MDS 9000 Family Release Notes for Cisco MDS NX-OS Releases*
- *Cisco MDS 9000 Family Release Notes for MDS SAN-OS Releases*
- *Cisco MDS 9000 Family Release Notes for Cisco MDS 9000 EPLD Images*
- Cisco DCNM Release Notes

Regulatory Compliance and Safety Information

- Regulatory Compliance and Safety Information for the Cisco MDS 9000 Family

Compatibility Information

- Cisco Data Center Interoperability Support Matrix
- Cisco MDS 9000 NX-OS Hardware and Software Compatibility Information and Feature Lists
- *Cisco MDS 9000 Family Switch-to-Switch Interoperability Configuration Guide*

Hardware Installation

- Cisco MDS 9500 Series Hardware Installation Guide
- Cisco MDS 9200 Series Hardware Installation Guide
- *Cisco MDS 9100 Series Hardware Installation Guide*
- Cisco MDS 9124 and Cisco MDS 9134 Multilayer Fabric Switch Quick Start Guide

Software Installation and Upgrade

- Cisco MDS 9000 NX-OS Software Upgrade and Downgrade Guide

Cisco NX-OS

- Cisco MDS 9000 Family NX-OS Licensing Guide
- Cisco MDS 9000 Family NX-OS Fundamentals Configuration Guide
- Cisco MDS 9000 Family NX-OS System Management Configuration Guide
- Cisco MDS 9000 Family NX-OS Interfaces Configuration Guide
- Cisco MDS 9000 Family NX-OS Fabric Configuration Guide
- Cisco MDS 9000 Family NX-OS Quality of Service Configuration Guide
- Cisco MDS 9000 Family NX-OS Security Configuration Guide
- Cisco MDS 9000 Family NX-OS IP Services Configuration Guide
- *Cisco MDS 9000 Family NX-OS Intelligent Storage Services Configuration Guide*

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- [Cisco MDS 9000 Family NX-OS High Availability and Redundancy Configuration Guide](#)
- [Cisco MDS 9000 Family NX-OS Inter-VSAN Routing Configuration Guide](#)
- [Cisco MDS 9000 Family Cookbook for Cisco MDS SAN-OS](#)

Cisco DCNM-SAN

- [Cisco DCNM Fundamentals Guide, Release 6.x](#)
- [System Management Configuration Guide, Cisco DCNM for SAN, Release 6.x](#)
- [Interfaces Configuration Guide, Cisco DCNM for SAN, Release 6.x](#)
- [Fabric Configuration Guide, Cisco DCNM for SAN, Release 6.x](#)
- [Quality of Service Configuration Guide, Cisco DCNM for SAN, Release 6.x](#)
- [Security Configuration Guide, Cisco DCNM for SAN, Release 6.x](#)
- [IP Services Configuration Guide, Cisco DCNM for SAN, Release 6.x](#)
- [Intelligent Storage Services Configuration Guide, Cisco DCNM for SAN, Release 6.x](#)
- [High Availability and Redundancy Configuration Guide, Cisco DCNM for SAN, Release 6.x](#)
- [Inter-VSAN Routing Configuration Guide, Cisco DCNM for SAN, Release 6.x](#)
- [SMI-S and Web Services Programming Guide, Cisco DCNM for SAN, Release 6.x](#)

Command-Line Interface

- [Cisco MDS 9000 Family Command Reference](#)

Intelligent Storage Networking Services Configuration Guides

- [Cisco MDS 9000 Family I/O Acceleration Configuration Guide](#)
- [Cisco MDS 9000 Family SANTap Deployment Guide](#)
- [Cisco MDS 9000 Family Data Mobility Manager Configuration Guide](#)
- [Cisco MDS 9000 Family Storage Media Encryption Configuration Guide](#)

Troubleshooting and Reference

- [Cisco MDS 9000 Family and Nexus 7000 Series System Messages Reference](#)
- [Cisco MDS 9000 Family SAN-OS Troubleshooting Guide](#)
- [Cisco MDS 9000 Family NX-OS MIB Quick Reference](#)
- [Cisco DCNM for SAN Database Schema Reference](#)

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

- Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

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