

Welcome to **Cisco DocWiki**. We encourage [registered Cisco.com users](#) to contribute to this wiki to improve Cisco product documentation. Note that you cannot log in to DocWiki with Cisco.com "guest" account credentials.

See [Terms of Use](#) and [About DocWiki](#) for more information about Cisco DocWiki.

Select the "edit" tab to edit an article or select the "discussion" tab to submit questions or comments about the article.

Click [here](#) to return to the Cisco MDS 9000 SAN-OS documentation on [www.cisco.com](http://www.cisco.com).

This article provides guidance for troubleshooting issues that may appear when using Cisco MDS 9000 Series. This article introduces tools and methodologies to recognize a problem, determine its cause, and find possible solutions.

## Contents

- [1 Audience and Generating a PDF of this Guide](#)
- [2 Organization](#)

## Audience and Generating a PDF of this Guide

This article is for experienced network administrators who configure and maintain NX-OS devices.

Generate a PDF of the guide:

[Cisco MDS SAN-OS Troubleshooting Guide -- Book PDF](#)

## Organization

This article is organized into the following sections:

- [Overview](#)
- [Troubleshooting Installs, Upgrades, and Reboots](#)
- [Managing Storage Services Modules](#)
- [Troubleshooting Hardware](#)
- [Troubleshooting Mixed Generation Hardware](#)
- [Troubleshooting Licensing](#)
- [Troubleshooting Cisco Fabric Services](#)
- [Troubleshooting Ports](#)
- [Troubleshooting N-Port Virtualization](#)
- [Troubleshooting PortChannels and Trunking](#)
- [Troubleshooting VSANs, Domains, and FSPE](#)
- [Troubleshooting SAN Device Virtualization](#)
- [Troubleshooting IVR](#)
- [Troubleshooting Zones and Zone Sets](#)
- [Troubleshooting Distributed Device Alias Services](#)
- [Troubleshooting FICON](#)
- [Troubleshooting RADIUS and TACACS+](#)
- [Troubleshooting Users and Roles](#)
- [Troubleshooting FC-SP, Port Security, and Fabric Binding](#)

## Cisco\_MDS\_SAN-OS\_Troubleshooting\_Guide

- [Troubleshooting IP Storage Services](#)
- [Troubleshooting IP Access Lists](#)
- [Troubleshooting IPsec](#)
- [Troubleshooting SANTap](#)
- [Troubleshooting Digital Certificates](#)
- [Troubleshooting Call Home](#)
- [Troubleshooting Fabric Manager](#)
- [Before Contacting Technical Support](#)
- [Troubleshooting Tools and Methodology](#)
- [Configuration Limits for Cisco MDS SAN-OS Release 3.x](#)