firefly
Demystify Technology

Cisco Storage Design Fundamentals

CSDF

Why Firefly

This course provides prospective Cisco MDS 9000 customers with an architectural overview of the MDS 9000 portfolio. Rather than focusing on operations, this course is designed to help pre-sales customers evaluate the MDS 9000 and to identify and resolve integration issues before they occur.

Length:
2 Days

Format:
Lecture/lab

Version:
4.4

Course Description

CSDF is an intensive 2-day instructor-led training (ILT) lecture/lab course that provides learners with basic skills in designing Cisco storage networks. You will learn about and implement a broad range of features on the Cisco MDS 9000 platform, including Virtual SANs (VSANs), PortChannels, advanced security features, FCoE, SAN extension with FCIP, and iSCSI solutions. In the lab, you will configure the switch from an out-of-the-box state and install the Cisco Fabric Manager GUI management application. You will configure VSANs, zones, PortChannels, and FCIP to implement a high-availability extended SAN design.

Who Should Attend

This course provides an introduction to the MDS 9000 family for pre-sales engineers, system engineers, network engineers, and technical decision makers who need to design and implement SAN fabrics using MDS 9000 Family switches. Enrollment is open to Cisco SEs, Cisco channel partners, and customers.

Recommended Prerequisites

You will gain the most from this course if you have experience working with storage and storage networking technologies.

CISCO PARTNER Learning

www.fireflycom.net
sales@fireflycom.net

ATLANTA
LONDON
SINGAPORE

Cisco Storage Design Fundamentals

Demystify Technology

Learning Objectives

In this course, you will learn how to:

- Describe the hardware architecture and components of the MDS 900 family of switches
- Explain how intelligent fabric services on the MDS 9000 platform enable the design of scalable SAN fabrics
- Configure and demonstrate key features of the Cisco MDS 9000 platform
- Explain the fundamentals of SCSI and Fibre Channel operation
- Explain how to use the features of the Cisco MDS 9000 platform to solve customer challenges
- Describe the Fibre Channel over Ethernet (FCoE) protocol and its applications
- Describe the Intelligent Services Modules available for the MDS 9000 platform
- Explain how to optimize traffic flows on the MDS 9000 platform
- Describe the benefits of consolidation in the Data Center including network I/O consolidation using FCoE and Cisco virtual server switching solutions Design an end-to-end SAN security solution
- Explain the options available for extending an MDS 9000 SAN infrastructure over IP and optical networks
- Explain how iSCSI can be used to enable migration of mid-range applications to the SAN

Course Outline

Lesson 1: MDS 9000 Platform Components and Architecture

- The MDS 9000 Platform
- The MDS 9000 Modules
- Crossbar and Supervisor Module Architecture
- MDS Switching Module Architectures
- MDS Switching Module Oversubscription

Lesson 2: Intelligent Fabric Services

- Virtual SANs
- Inter-VSAN Routing
- MDS Intelligent Addressing Services
- Switch Interoperability
- MDS Intelligent Services Modules
- FAIS Overview
- SANTap
- Network-Accelerated Serverless Backup Overview
- Storage Media Encryption
- SCSI Flow Services and Fibre Channel Write Acceleration
- MDS 9000 I/O Accelerator Package
- Data Mobility Manager
- MDS 9000 SAN Device Virtualization
- FlexAttach
- TRustSec Link Encryption Feature

Lesson 3: Initial Setup, Licensing, Fabric Manager, CLI

- Performing the Initial Setup
- Cisco Fabric Manager Server
- Cisco Fabric Manager
- The Command Line Interface
- Software Licensing

Lesson 4: Consolidation in the Data Center

- The Benefits of Consolidation
- Server Consolidation
- Endpoint Virtualization
- Data Mobility Manager
- Network Consolidation

CISCO PARTNER Learning

www.fireflycom.net
sales@fireflycom.net

ATLANTA
LONDON
SINGAPORE

firefly
Demystify Technology

Cisco Storage Design Fundamentals

Course Outline (continued)

- Mainframe and Open Systems SAN Consolidation
- Network I/O Consolidation using FCoE
- Virtual Server Switching

Lesson 5: Optimizing Performance

- Fibre Channel Congestion Control
- Quality of Service
- Load Balancing
- Link Aggregation Using PortChannels
- SAN Performance Management

Lesson 6: Securing the SAN Fabric

- SAN Security Issues
- Securing Management Access
- Host and Switch Authentication
- Fabric Binding and Port Security
- Link Encryption
- Storage Media Encryption
- Zoning Overview

Lesson 7: SAN Extension Solutions

- SAN Extension Applications
- SAN Extension Transports
- Fibre Channel over IP
- High Availability FCIP Configurations
- Using IVR for SAN Extension
- SAN Extension Security
- FCIP Performance Enhancements
- Fibre Channel Write Acceleration
- MDS 9000 I/O Accelerator Package
- XRC Acceleration

Lesson 8: Building iSCSI Solutions

- iSCSI Overview
- Deploying iSCSI
- Securing iSCSI

Lesson 9: SCSI and Fibre Channel Primer

- SCSI Operations
- SCSI Protocol Overview
- Fibre Channel Overview
- Fibre Channel Flow Control
- Fibre Channel Addressing
- Fabric Login
- Standard Fabric Services

Lab Guide

- Lab 1: Initial Switch Configuration
- Lab 2: Accessing Fibre Channel-Attached Disks
- Lab 3: Configuring High-Availability SAN Extension
- Lab 4: Configuring IVR for SAN Extension
- Lab 5: Exploring Fabric Manager Tools
- Lab 6: Implementing iSCSI

CISCO PARTNER Learning

www.fireflycom.net
sales@fireflycom.net

ATLANTA
LONDON
SINGAPORE