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Demystify Technology

Cisco Nexus Test Drive with Nexus 5000 Labs

NXTD-5K

Length:
2 Days

Format:
Lecture/Lab

Course Version:
2.6

Product Version:
Nexus 5000 5.2(1)N1(1)

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Why Firefly

Once again Firefly is leading the way with the latest Cisco equipment, the most up-to-date software release features, and new customized enhanced labs. Firefly has just updated its class equipment with 16 new pods based on the Nexus 5548UP, the FEX 2232PP, and Cisco C200 M2 servers with P81e VIC cards. Students will have the choice to either run through a series of SAN-based labs or LAN-based labs covering different aspects of the Cisco Nexus 5K architecture.

The courseware has been updated to include lessons on the very latest NX-OS release 5.2.1.N1.1 features and has enhanced the lab experience with three additional key exercises:

1. Configure Cisco Adapter-FEX
2. Configure FabricPath
3. Install DCNM 6.1

As our customers have come to expect, Firefly's expert instructors have considerable field experience and are able to share that experience with their students throughout the course.

Course Description

This two-day hands-on course is designed for system integrators and end user solution architects who are responsible for developing data center solutions. The course covers the high level components and procedures needed understand and manage, the Cisco Nexus 5000 Switches in the network and SAN environment.

Who Should Attend

This two-day workshop is solutions-oriented training that is designed for System Integrator and End User Solution Architects who are responsible for developing data center solutions that span compute, network, and storage.

Prerequisites

You will gain the most from this seminar if you are familiar with basic Data Center network architecture, have a fundamental knowledge of server virtualization, and familiarity of storage area networking concepts.

Learning Objectives

- Identify the Cisco Nexus product family, specifically the Cisco Nexus 5000 Switch chassis and components, as well as the Cisco Nexus 2000 Fabric Extender.
- Describe how to configure the features of Cisco Nexus switches
- Describe how to configure Cisco Nexus Switch advanced features such as FCoE (Fiber Channel Over Ethernet, use of the FEX (2K) and 1000v
- Identify the management tools that are available for the Cisco Nexus Series Switches and how to configure the relevant tools to support the given design
- Explain the Fibre Channel Protocol, the Fibre Channel over Ethernet (FCoE) Protocol, and the Data Center Bridging enhancements
- Describe how to configure Fibre Channel over Ethernet

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Cisco Nexus Test Drive with Nexus 5000 Labs

Lesson 1: The Nexus Product Family

- Nexus 7000
- Nexus 5000
- Nexus 5500
- Nexus 4000
- Nexus 2000
- Nexus 1000V
- NX-OS
- DCNM

Lesson 2: The Nexus 7000 Core Switch

- Nexus 7000 Chassis and Modules
- Fabric Modules
- Supervisor Redundancy
- Licensing
- Virtual Device Contexts
- VDC Design Examples
- Virtual PortChannels
- FabricPath (Layer 2 Multi-Pathing)
- Overlay Transport Virtualization

Lesson 3: The Nexus 5000 Series Switch

- Challenges in the Datacenter
- I/O Consolidation
- Nexus 5000 and 5500 Architecture Overview
- FCoE Server Adapters
- Nexus 5000 Management

Lesson 4: The Nexus 2000 Fabric Extender

- Nexus 2000 Model comparison
- Nexus 2000 Access Layer Design
- Describe Nexus 2000 forwarding

Lesson 5: The Nexus 1000v Virtual Switch

- Virtual Environment Overview
- How the Cisco Nexus 1000V supports coordinated provisioning of VMs and network resources
- Features of the Nexus 1000v

Lesson 6: Nexus Data Center Architecture

- Access Layer Designs
- Cisco Nexus Data Center Design

Lesson 7: Understanding the FCoE Protocol

- Current FCoE Architecture
- FCoE ENode MAC Addresses
- FCoE Initialization Protocol
- FIP Snooping
- VE Interfaces
- FIP future progression

Lesson 8: Configuring the Cisco Nexus 5000

- Switch Configuration Overview
- Configuring Basic Connectivity and Administrative Access
- Configuring Virtual Interfaces
- Configuring Ethernet Uplink Ports
- Configuring the FC Uplink Ports
- Configuring the Nexus 2000
- Verifying the Configuration
- Additional Configuration Components

Lesson 9: Configuring NPV Mode

- Describe NPiV
- Explain how NPV mode works in an FCoE network
- Discuss how to change switch mode to NPV mode

Lab Option A—Storage Focus

Lab 1: Configuring the Switch for Administrative Access

Lab 2: Installing Cisco Data Center Network Manager

Lab 3: Configuring the Cisco Nexus 5000 for FCoE Connectivity

Lab 4: Configuring the Cisco Nexus 5000 in NPV Mode

Bonus Lab: Troubleshooting FCoE Issues on the Cisco Nexus 5000 Switch

Lab Option B—Networking Focus

Lab 1: Installing Cisco Data Center Network Manager

Lab 2: Configuring the Nexus 2000 as a Remote Line Card

Lab 3: Configuring Nexus 2000 with VPC

Lab 4: Configuring Cisco Adapter-FEX

Bonus Lab: Configuring Cisco FabricPath