



Implementing and Configuring the Cisco Nexus 1000 and 5000

Length
5 days

Format
Lecture/lab

Track
Design &
Deploy

Version
1.0

Course Description

The Cisco Nexus product family consists of several products whose individual value is further increased when combined. The Cisco Nexus 1000V is a virtual switch that resides within a VMware ESX Server instance and provides operations and management consistency with existing Cisco Nexus and Catalyst switches. The Cisco Nexus 5000 is a high-density, low-latency 10GE switch targeted for top-of-rack and end-of-row deployments, and is the industry's first FCoE-capable switch for I/O consolidation.

When deployed together, the Nexus 5000 and Nexus 1000V enable simple policy-based deployment of virtual machines with coordinated configuration of LAN and SAN access.

This 5-day course includes hands-on labs in which you will configure the Nexus 5000 and FCoE, a VMware infrastructure, the Nexus 1000V, and demonstrate policy mobility during virtual machine migration.

Who Should Attend

This course is designed for experienced Network Field Engineers, VMware Engineers, and Data Center Architects with a strong knowledge of Cisco switching products.

Recommended Prerequisites

- L2 switching and Cisco network design
- Advanced L2 services such as QoS and ACLs
- Working knowledge of Fibre Channel Storage Networking
- Familiarity with VMware deployment and administration

ICNX1+5

Learning Objectives

After completing this course, you will be able to:

- Design virtual access layer topologies using the Nexus 5000, 2000, and 1000V
- Install and configure the Nexus 1000V
- Configure Nexus 1000V security profiles
- Configure VMware services to test and verify Nexus 1000V operation
- Monitor and troubleshoot Nexus 1000V environments
- Describe how FCoE operates within SAN and LAN environments
- Describe the core features of the NX-OS platform
- Describe the ASIC-level architecture of the switch and CNAs, and explain how the architecture impacts network design
- Configure the Nexus 5000 in switch mode and NPV mode
- Configure VN-Link on the Nexus 5000
- Manage traffic flow and priority
- Configure security policies
- Implement high-availability configurations
- Troubleshoot Nexus 5000 hardware and FCoE configurations



Learning
Solutions

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Course Outline

Module 1: Networks in a Virtual Server Environment

- Lesson 1: Introduction to the Nexus 1000V
- Lesson 2: Server Virtualization Primer
- Lesson 3: VMware Ethernet Networking
- Lesson 4: Nexus 1000V Architecture
- Lesson 5: Nexus Design Considerations

Module 2: Virtual Network Configuration

- Lesson 1: Configuring VMware Switching
- Lesson 2: Install and Configure Nexus 1000V
- Lesson 3: Configuring Port Profiles
- Lesson 4: Configuring Security
- Lesson 5: Traffic Flow
- Lesson 6: Network Monitoring and Troubleshooting

Module 3: Deploying the Nexus 5000

- Lesson 1: Overview of the Nexus 5000
- Lesson 2: Fibre Channel Primer
- Lesson 3: Ethernet Primer
- Lesson 4: Server Virtualization Primer
- Lesson 5: Understanding the FCoE Protocol
- Lesson 6: Nexus 5000 System Architecture
- Lesson 7: Ethernet Enhancements
- Lesson 8: Future Directions

Module 4: Nexus 5000 Implementation and Configuration

- Lesson 1: Configuring FCoE Server Connectivity
- Lesson 2: Configuring a Nexus 5000 Switch in Switch Mode
- Lesson 3: Managing Nexus 5000 Switches with Cisco Device Manager and Cisco Fabric Manager
- Lesson 4: Configuring Nexus 5000 Switches in NPV Mode
- Lesson 5: Managing Traffic Flow
- Lesson 6: Configuring High Availability
- Lesson 7: Securing the Switch
- Lesson 8: Managing the Switch
- Lesson 9: Monitoring and Troubleshooting

Labs

- Lab 1: Populating the vCenter Database
- Lab 2: Configuring VMware Networking
- Lab 3: Installing the Nexus 1000V
- Lab 4: Configuring Port Profiles
- Lab 5: Nexus 1000V Switch Management
- Lab 6: Configuring Security
- Lab 7: Traffic Flow
- Lab 8: Troubleshooting
- Lab 9: Analyzing FCoE Packet Traces
- Lab 10: Configuring the Nexus 5000 for Administrative Access
- Lab 11: Configuring FCoE Connectivity
- Lab 12: Configuring NPV Mode
- Lab 13: Traffic Engineering
- Lab 14: Configuring Security Features
- Lab 15: Troubleshooting the Nexus 5000



Learning Solutions