Cisco Nexus Architecture Workshop

NXAO

Length
1 Day

Format
Workshop

Track
Design

Version
2.2

Overview

The Cisco Nexus family of switches is designed for the next-generation virtualized Data Center. In addition to meeting today's increasing performance requirements, the Nexus family of switches introduces a new paradigm for virtualizing the Data Center network.

The Nexus family introduces several key features that will be critical for implementing next-gen, virtualized, and cloud computing architectures, including:

- Integrated virtual switching and coordinated virtual machine provisioning with the Nexus 1000V
- Hybrid physical top-of-rack / logical end-of-row server access architecture with the Nexus 2000
- Unified Fabric (I/O Consolidation) with the Nexus 5000
- Virtual management domains (VDCs) with the Nexus 7000 core switch

The goal of this workshop is to help you understand how you can apply these new technologies to optimize the scalability, agility, performance, and operational efficiency of your Data Center.

Who Should Attend

This course provides an introduction to the Cisco Nexus 7000, 5000, 5500, 4000, 2000, and 1000 products for Data Center network architects.

Recommended Prerequisites

You will gain the most from this seminar if you have at least CCNA-level knowledge of routing and switching.

Objectives

In this course, you will learn how to:

- Identify the different switches in the Nexus product family
- Describe the architecture of the NX-OS operating system
- Describe the Nexus 7000 switch and core layer architecture design guidelines
- Describe the Nexus 5000 switch and I/O consolidation
- Describe the Nexus 2000 Fabric Extender and its impact on access layer design
- Describe the Nexus 1000V virtual switch and its role in VMware deployments
- Describe Virtual PortChannels
- Describe a data center virtual network architecture using the Nexus family
- Architect a data center network based on the Nexus product family

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Course Outline

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 Architecture Overview
- FCoE Server Adapters
- Nexus 5000 Management

Lesson 4: The Nexus 2000 Fabric Extender
- Access Switch Architecture

Lesson 5: The Nexus 1000V Virtual Switch
- Virtual Environment Overview
- VN-Link
- Coordinated VM Provisioning

Lesson 6: Virtual Layer Architecture
- Cisco Nexus Data Center Design
- Aggregation Design Principles
- Data Center Network Services
- Core Layer Design Principles

Course Labs

Case Study 1-1: Designing a Nexus Family Datacenter

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